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THE USE AND DEVELOPMENT OF OUR LIBRARY

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The library of the Maricopa County Medical Society is located in the tower room, twelfth floor of the Professional Building, in a room about 35 feet square.

A visit to the library at the present time will show book cases on all available wall space, nearly filled with magazines and books. On tables are recent issues of nearly a hundred medical journals. Stacked around in the lobby and various corners are boxes of magazines and books awaiting classification and filing. The wall cabinets are lettered, one letter to each section.

The Journal of the American Medical Association occupies the top shelf of the section near the entrance. In the main, the journals are filed by years; that is, the journals for 1932 are all put in one section, a box for the numbers of each journal for the year 1932. The journals for 1931 are in a section adjoining the one for 1932, and journals for 1930 are next to those of 1931, and so forth.

A card index file of the journals is arranged by years, with all available journals for any particular year indexed alphabetically. On each card will be found the section letter indicating the location of the journal; for example, if a person wishes to see an article in the Southern Medical Journal for 1928, he will go to the card index and turn the cards to 1928 and then find the Southern Medical Journal card. On this will be designated the section in which the journal will be found. By going to this section, he will find that the boxes are arranged alphabetically.

In order to conserve space, it has been found necessary in certain instances to file two years or more of a journal in one box; therefore, it is particularly important for members who use the library to consult the card index file to find the location of the journal which is being sought. If I have not been able to make this clear, a visit to to the library at the time the librarian is present, will get an explanation from her which will help in the understanding of the arrangement of the library .

Every member who has journals in his office or home should immediately send these to the library. Occasionally a number is missing from certain files, which may be found by cooperation of all in this request.

We have many duplicates. It has been proposed that duplicates be stored at the two hospitals, in order to build up a library for the hospitals. It will be made plain with the hospitals that these are loaned and that, if we need them to fill out our files at any time, they will be drawn upon. Duplicate books which come into possession of the library also will be distributed to the hopsitals as loans.

It is possible that our membership contains those who are not experienced in the use of a library. Such a member may, on going into the library, be like the person who went into the forest but could not see the forest for the trees. One might not be

able to find the article sought because of the large number of journals. We will suppose, for example, that a person has a specific article he wishes to see. He knows the name of the author but does not know in what journal it was published, nor the exact title, nor in what year it appeared. The best procedure in such an event is to take the index medicus for the year in which the article might have been published. First turn to the name of the author and, if the guess is wrong as to the year, it is but a few minutes' search to go through eight or ten or more of the index medicus magazines, if necessary, to find the name and issue of the medical journal in which the article will be found. When the name of the medical journal and year has been found, visit the card index file; turn to the year and thumb through the cards, which are arranged alphabetically, until the name of the journal is found. The card will designate the cabinet in which is the journal. It then takes but a minute to find the journal.

Again, suppose a person is writing a paper on a subject, for example, encephalitis. Pick up the index medicus for 1931, if it is the latest information on the subject which is being sought. It will be found that there are perhaps a hundred or more articles published in 1931 and listed in the index medicus. By referring to the list of journals at the library, it can be seen which journals are available, of those mentioned in the index under the heading of encephalitis. Inside of a few minutes, one usually can accumulate an armful of journals on any subject—enough at least for an evening's reading.

The library committee is anxious to have every member of the society give the librarian the names of the journals for which he is subscribing. We wish to reduce to a minimum the duplicates and to increase the number of journals. It has been suggested, and the suggestion seems to be an excellent one, that the various members of a specialty get together and find out what journals are being obtained by the members at the present time, whether there are any duplicates, and what other journals are desired. In this way the duplicates may be eliminated and we shall be able to get certain journals that would otherwise be omitted.

A source of trouble which the library committee is anticipating is that the journals which are subscribed for by individuals will be allowed to lie around the offices for so long a time that they may get lost. We hope that the doctors will instruct their office attendants to guard zealously the magazines for which they have subscribed, for a short length of time, and then send them to the library.

Magazines and books may be withdrawn from the library and taken to office or home. A pad of paper hanging on a nail near the door is provided for registering the name of the magazine, volume number, whatever description is necessary, and the date and name of the physician taking it. It is hoped that every member will be loyal enough to the society to adhere strictly to this plan. The library will soon lose much of its usefulness unless the members are careful to do this and return the journals and books in due time. When the volume is returned, it should be placed upon the card catalogue file, and the slip cancelled. The librarian will see to returning the volumes to their proper places.

The library at the present time is in charge of Mrs. Rankin, a cultured and competent woman, and I believe the physicians will find her most helpful in any suggestions which they may wish to make. The library committee suggests that you take your library problems to her.

As yet the library is not kept under lock and key, and there have been several articles missed from it. It is proposed that the room be kept locked when the librarian or a member of the society is not there. In order to make it possible for the library to be used at all hours, it is suggested that we provide keys for all members who wish them. Each key will be paid for by the member getting it.

The library committee, Dr. Watkins, chairman, is anxious for suggestions for the good of the library. The thanks of the Society are due to Southwestern Medicine for the splendid exchange list of magazines and for the new books obtained for review.

TREATMENT OF CAVITATION IN PULMONARY TUBERCULOSIS
(A Clinical Demonstration)

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(A Clinical Demonstration before the Medical and Surgical Association of the Southwest, at their Seventeenth Annual Meeting, held in Phoenix, Ariz., December 3 to 5, 1931).

Tuberculosis is popularly considered a very slow disease. So it is, but it is only slow on the healing side, the spreading of infection often being very sudden and rapid.

The treatment of the difficult case of pulmonary tuberculosis is largely the treatment of cavitation, and the greatest strides which have been made in the rehabilitation of the chronic tuberculous patient have been in the methods of closing his cavity.

The formation of cavity is, by the elimination of tubercle bacilli and dead lung tissue, a useful and defensive mechanism. The persistence of the cavity is, however, a calamity of sufficient gravity that almost any measure for its closure is justified. The well-to-do patient, not being compelled to work, may be able to live in spite of his cavity, but to the poor patient it means a loss of his working capacity. If he attempts to work, reactivation and spread of his disease is almost inevitable, and he finally succumbs. The working man with a medium sized cavity is doomed. Of course we have all seen men working with good sized cavities, but they are sufficiently rare to make them stand out in our memories, and often give us a false idea of their relative number to the vast majority of cavity cases either dead or disabled.

The reports from the Wallum Lake State Sanatorium of Rhode Island by Barnes and Barnes are astonishing to the average physician. In reporting on 1454 cavity cases they found a mortality of 80 per cent within one year, 90 per cent within five years, and an average duration of life of 15.8 months. They point out a relation between the length of life and the size and number of cavities. These statistics confirm what has been the opinion of phthisiologists for years.

Springman, in his review of 626 cavity cases over a period of 16 years reports a total mortality of 78.2 per cent, with a death rate of 61.7 per cent for the first two years. Of the survivors approximately 70 per cent were totally or partially disabled, and only 4.1 per cent of the whole number were working. Surely we cannot view with complacency a condition which allows the patient only one chance in twenty-five of being able to return to work, and are justified in almost any treatment which will better the outlook. Fortunately, if there is not too much delay, the methods used need not be so dramatic or dangerous.

There is nothing in the development of cavities which suggests chronicity. They often develop suddenly, and increase in size rapidly, after what seems to be only a slight cold. The classification of the National Sanatoriums Association places the cavity cases among the far advanced, but they may reach this stage very early in the disease.

Probably a little consideration of the classification of cavities would be helpful inasmuch as the different types have a different significance. The classification of cavities by Pinner is very useful, as they fall into his three divisions both from the pathological and radiological viewpoints, and, after classification, submit to certain generalizations regarding treatment which may guide us.

He divides them into: (1) small multiple cavities in dense infiltrated parenchyma, the so called honey combing or moth eaten appearance, (2) more or less sharply defined round or oval cavities either with perifocal inflammation or thin well-outlined borders (3) irregularly shaped cavities with dense thick walls.

The first, or multiple small cavities embedded in densely infiltrated portion of the lung, has a bad prognosis. If it involves as much as a whole lobe, Barnes and Barnes in Rhode Island found that 80 per cent were dead in one year, the average duration of life being 9.5 months. It is a formal indication for collapse therapy. Artificial pneumothorax should be tried but is very likely to be impossible due to adhesions. Failing in it, any other type of collapse is justified.

The second type, or rounded cavity, is an

early lesion and is often seen on the first film. If a picture was taken before its appearance it would be seen that it usually appears in an area of diffuse infiltration as a bronchopneumonic or pneumonic area. Therefore, when first seen the cavity is likely to be surrounded by inflammation. As pointed out by Assmann, it is very often seen below the clavicle, more often nearer the dorsal surface and near the periphery. It is occasionally seen in the middle or lower lung field. This type of cavity very often disappears spontaneously and should be treated conservatively, for a time, if the condition of the patient will permit. Failing to close, it will eventually change into a cavity of the third class.

The third class is a thick walled cavity, distorted in shape, usually from the irregular fibrosis and tension surrounding it. It is this class of cavity which is usually the concern of the specialist in chest diseases, calling forth his whole repertoire in cavity closure from bed rest to thoracoplasty.

The purpose of this clinic is to recall to our minds some of the methods of cavity closure and to outline somewhat the long road down which we may have to lead the patient before we can return him to health with his cavities closed. The wise physician will caution his patient with cavity regarding the difficulties in closure, will prepare him for possible failure with one method, and encourage him to go on from one method to another and another if the case requires it. If too much stress is laid on one method, without the possibility of its failure being pointed out ahead of time, the patient may lose sight of the main objective and be weighed down with failure, feeling that the physician is floundering around from one thing to another rather than following out a well laid plan.

In trying to close a cavity, naturally the method entailing the least danger to the patient and still offering a reasonable chance of success should be tried first. One versed in the use of the more dramatic methods of closure is apt to spurn the use of simpler means which might well be used with less danger and expense to the patient, and perhaps even better ultimate results.

BED REST

Rest in bed has been used for so many years that its very familiarity seems to have bred contempt, but again I want to commend its use. Simple rest in bed will cause a disappearance of many cavities as completely and as permanently as can be done by any other method of treatment. It should be tried, especially, for those cases falling in the second classification, with round cavities, where the best results can be expected. The cases falling in the first and third classes will not be so likely to close under simple bed rest and generally would hardly merit a long continued trial. The following two cases are selected as illustrations of disappearance of cavity by simple bed rest:

CASE I. Miss M. H., age 25 years; sick since 1929. Never took much care of herself. First x-ray I have is in November, 1929, (Fig. 1) showing two cavities, one at apex and one 4 cm. in diameter below the hilus level. On bed rest the round cavity in the bottom of the lung disappeared as shown by x-ray examination in September, 1930 (Fig. 2). The cavity at the top did not disappear, however, and she was put under pneumothorax in September, 1930. Cavity at the top did not close by pneumothorax and we are going to use some other type of collapse therapy, probably thoracoplasty or extrapleural pneumolysis, depending on the condition found when the lung is out.

CASE II. Miss A. S., age 21 years. Diagnosed to have pulmonary tuberculosis in December, 1930, at which time x-rays (Fig. 3) show cavity at each apex. Expectoration was one ounce at that time but now is much less. Placed at rest in bed since February, 1931. At this time (November 25, 1931), the disappearance of the cavities is practically complete (Fig. 4). Other types of lung collapse were considered but as simple bed rest seemed to be proving effective and any other type would have been difficult, it was decided to persist in rest alone.

POSTURAL REST

Simple bed rest may be sufficient, but usually the physician is derelict in his full duty if he simply instructs his patient to go to bed. On our history sheets, where we record the instructions given the patient, there is one space marked for posture advice. Our attention is directed in every case towards a decision as to the side on which we may want him to lie. Some cases do not lend themselves to postural treatment, but in many cases the advice to lie on one particular side, properly followed, with posture pillow, if ap-

propriate for that particular case, may make all the difference between success and failure in the closure of the cavity. The postural treatment instituted early will be much more effective than when the patient has spent a long time in bed with no particular reference to posture and the cavities have become very thick walled and distorted. As an illustration of posture the following case is shown:

CASE III. Mr. E. D., age 48 years. Diagnosed in September, 1928, to have pulmonary tuberculosis. X-ray shows cavity 4 cm. in diameter below the hilus level on left side (Fig. 5). He was put to bed on the left side to close the cavity. Four months later (Fig. 6), the cavity has apparently disappeared, patient has gained tremendously in weight, and been in good health since that time. The posture should be quite rigidly enforced, with several short periods a day when he is turned on the good side to drain the cavity.

REST WITH SHOT BAGS

Posture may often be combined with the use of weights on the chest. When the patient is on the side naturally they cannot be used, but when resting on the back, shot bags may be used over the cavity area either on one side or bilateral, if there are cavities on both sides. Bilateral cavitation may often be helped with shot bags, a fact worth remembering, as it is often not susceptible to any other simple treatment. The greatest weight I have ever seen used on one side was 27 pounds. This was done without any discomfort on the part of the patient, and the last ten pounds were added at the patient's request, as we felt that 15 to 17 pounds would be as effective as a greater amount. We frequently use as much as 10 pounds over both apices where there are bilateral cavities. In such cases, of course, postural treatment is not available. Patients usually become accustomed to the weights, so they can sleep with their shot bags in place. One case illustrating the use of a shot bag:

CASE IV. Mr. O. S., 21 years old. Diagnosed in October, 1927, to have tuberculosis with large cavity in upper left lobe (Fig. 7), and I saw him three months later. He was put to bed and tried under artificial pneumothorax, which was found impossible due to adhesions. A shot bag up to 10 pounds was used faithfully. The cavity was entirely closed in seven months, and has remained closed (Fig. 8). Patient is working, and subsequent examinations show no return of cavity or other active lesion.

ARTIFICIAL PNEUMOTHORAX

If the above mentioned methods of closing cavity be unsuccessful in a reasonable time, or if the condition of the patient demands haste, or the necessity for his early return to work be great, artificial pneumothorax should be considered. This is undoubtedly the most hopeful of all methods of treatment for the control of cavity, offering a maximum of closures with a minimum of danger. Not too long a time should intervene with simple bed rest, posture, or shot bags before it is employed, as there is an increasing danger of adhesions or thick walled cavity formation, which may prevent collapse. One may almost judge the efficiency of the phthisiologist by the percentage of his total number of cases which he attempts under collapse. In my experience, it is exceedingly rare to see a case which is collapsed where it should not have been. On the other hand, it is almost a daily occurrence to see a patient beyond help, where an excellent opportunity to collapse the lung has been neglected. When in doubt regarding collapse, always favor collapse. In the Brompton Hospital for Diseases of the Chest, the head of one of the services follows the routine of collapsing one or both lungs in every case which has a positive sputum. As much might be said for this rather drastic rule as could be said for the often followed criterion of demanding a good lung on one side before collapsing the other one. Fully half of the cases have activity in the best lung when the bad lung is collapsed. In the majority of cases the best lung either stands still or gets better, when the cavity in the bad lung is collapsed. The best protection for the already breaking best lung is often a collapse of the cavity ridden worst lung. If the patient is in the precarious, almost hopeless, condition of having both lungs breaking down in spite of bed rest and every other measure available, then it seems that his outlook will not be made worse by a collapse of one lung or a partial collapse of both lungs. It has been well proven that often the shortness of breath is less under double collapse than before, and almost invariably the toxemia is lessened. Of course we are not discussing the cases which are beyond the hope of help of any

nature, but rather those cases with advanced cavitation who still have enough lung tissue remaining, if the disease can be arrested and the cavities closed. I have collapsed cases with good results where the side selected to collapse could have been decided by the flip of a coin, so little choice was there between the two. A fair number of bilateral pneumothorax cases are able to work. Bilateral pneumothorax is not a medical curiosity but rather a perfectly legitimate, serious attempt at saving life, no more to be frowned upon than a decompression of the skull or a colostomy. If the patient can have his cavities closed and be given a greater degree of pulmonary rest, he may be able to return to good health, and what may seem like drastic measures be fully justified.

Out of the multitude of illustrations, which one might give of unilateral collapse, two have been chosen, chiefly because several points can be illustrated by them:

CASE V. Dr. I. E. K., age 30. First found to have pulmonary tuberculosis in 1922. There was a small cavity at the left apex at that time. After a short period of rest in bed of three and one-half months, he resumed work until his gradually failing health compelled him to stop in December, 1928. A year's rest in bed showed no improvement, and he first came under our care in December, 1929. The X-rays taken previously are very poor but do show the huge cavity at the left apex (Fig. 9). In spite of the size of the cavity and the fact that it was known to be of seven years' duration, pneumothorax was decided upon and instituted in December, 1929. A remarkably good collapse was obtained (Fig. 10), with cessation of practically all symptoms.

This case illustrates one point very well. Never let any preconceived notion of the impossibility of collapse deter one from making an honest attempt. The wisest man can do no more than hazard a guess about the possibility of collapse, and only the inexperienced would dare withhold treatment by reason of this guess. Probably the history which would lead one to feel most certain that collapse could not be done would be one of pleurisy with effusion which had later disappeared, and even this is not infallible. I have collapsed several such cases. Shifting of the heart, retraction of the chest wall, distorted cavities, visible interlobar fissures, partial or total atelectasis, adherent diaphragm, history of dry pleurisy, or the presence of tuberculosis for any number of years, none of these should deter one from trying the collapse. Only the needle will tell the tale. Conversely, one should never assure the patient that it can be done, no matter how short the apparent duration of the disease, how free the history may be from pleural irritation, how freely movable the diaphragh, or how slight the involvement.

CASE VI. The case of Miss L. Mc. illustrates another point. She is 23 years of age, first diagnosed to have pulmonary tuberculosis in October, 1929, with cavity in upper right lobe (Fig. 11). Other methods having proved unavailing, she was placed under collapse in the spring of 1930. The cavity did not close under moderate pressure (Fig. 12). It is often advocated that high pressures be not used. However, if one does not close the cavity by pneumothorax, then some other form of more radical closure must be used. Keeping in mind our statement that "cavities must be closed," then one must go on to high pressures, or else stop the pneumothorax and try surgery. In this case high pressures freed the adhesions and closed the cavity (Fig. 13).

Bilateral pneumothorax is usually approached either as a surprise party for the patient who has had one lung collapsed for some time and then the other lung went bad, or it is decided that a double collapse is necessary before it is started on either lung, and a program of treatment outlined. Bilateral cavitation with a moderate amount of good lung on each side is the usual finding in such a case. With a fair amount of good lung, the cavities may close and the outlook be changed from one almost hopeless to excellent.

CASE VII. Mrs. G. S. illustrates many points regarding bilateral pneumothorax, which are worthy of mention. She was first diagnosed to have pulmonary tuberculosis in March, 1929. X-ray shows exudative process with small cavities in upper left (Fig. 14). She was kept in bed from that time until October, 1929, without any particular attempt directed toward closing the cavities on the left. Postural rest or shot bags were not tried and, when first seen by us, we felt that we should try pneumothorax without further delay. The right lung already showed slight signs of involvement, and it was felt that probably the best protection which could be given it would be to collapse the left side. This was done. At first the collapse was quite uniform from top to bottom without closure of the cavities (Fig. 15). Without any positive pressure, x-ray a few months later showed that a selective collapse had been obtained, with cavities closed, and

the bottom out and breathing (Fig. 16). It was expected that about this degree of collapse would be continued, as the other lung was showing signs of breaking. The mediastinum was beginning to show quite marked herniation, even though only negative pressure was used (Fig. 17). She moved away from Phoenix for a year.

During the summer of 1930, hay fever added to her difficulties. In the winter 1930-31 she was carried under pneumothorax without being looked at under the fluoroscope on account of serious illness in the family. Symptoms of cough, expectoration, and fever returned. On the return to Phoenix in March, 1931, it was felt that there was probably cavitation in the right lung, and it was decided to allow the left to come out and restore the state of only selective collapse. This would allow the mediastinal herniation to disappear, and a better idea of the real condition of the right lung obtained. It was seen at this time that there was definite cavitation in the right (Fig. 18). As the collapse of the left lung was gradually reduced, there was increase in cough, expectoration with a positive sputum, and afternoon temperature, all of which had disappeared after the left lung had been collapsed. However, these symptoms were from the right lung and increased on account of the fact that the mediastinal herniation had afforded a considerable degree of collapse of the right sided lesion, this collapse being released with the disappearance of the herniation. I have seen a number of cases in which cavities have disappeared in the best lung on account of the partial collapse afforded from the other side, but this type of cavity collapse must be handled with care and a certain amount of good luck. In this case it was decided to carry a bilateral collapse, and pneumothorax on the right side was instituted on May 1, 1931, effectually closing the upper lobe cavity (Fig. 19). The results were most gratifying, and practically all symptoms disappeared again. She has been allowed considerable freedom without symptoms, leading almost a normal, though sedentary, life. Condition of lungs on Nov. 30, 1931, shown in Figure 20.

She has been carried very lightly under collapse on the right side. On account of the fact that the lung is quite far out and has not been under collapse very long, it requires about three times as much air as does the left. Her routine now is one injection a month on the left of about 700 c.c. and two to three on the right of about 750 c.c. No positive pressures on either side have ever been used.

CASE VIII. Miss D. R., 21 years old, was first diagnosed to have pulmonary tuberculosis in July, 1927, with cavity in upper right lobe (Fig. 21), coming under our care in the fall. Rest in bed on the right side and a shot bag when on the back were of no avail in closing her large cavity. The left lung was not above suspicion. It was felt that the large cavity at the right upper must be closed, and pneumothorax was started in March, 1928 (Fig. 22). Within the next few months there was such definite extension in the left lung that the discontinuance of the pneumothorax on the right was considered. Several adhesions held the cavity open on the right. It was finally decided that the only hopeful thing to do was to disregard the left lung temporarily and go ahead and try and close the cavity on the right. Any other course would be admitting failure with the prospect of death or chronic invalidism for the patient. Pneumothorax was pushed on the right, the adhesions stretched, and the cavity partially closed. The left lung had by this time developed a good sized cavity (Fig. 23). Failing in complete closure it was decided to burn the adhesions after the method of Jacobaeus, a method so ably sponsored in this country by Ralph Matson. In October, 1929, as many of the adhesions were burnt as possible. A better collapse was obtained but not perfect (Fig. 24), and then after a second burning, the cavity closed entirely (Fig. 25). My associate, Dr. Victor Randolph, performed the surgery in this case as he has done in all the cases which we will discuss later. At this second burning, she had what promised to be a rather serious hemorrhage but it was readily controlled with pressure. This bloody fluid was removed a few days after the operation. The left lung was started on pneumothorax in July, 1930. Although there was an adhesion at the apex it did not prevent a good collapse of the cavity (Fig. 25). This case illustrates the degree to which bilateral collapse can be carried without inconvenience to the patient (Fig. 26). She is not short of breath and is able to do clerical work.

PNEUMOLYSIS (INTRAPLEURAL)

The intrapleural pneumolysis as a method of further aid in closing cavities in pneumothorax cases was mentioned in the previous case. It is of inestimable aid in bilateral cases, as they cannot be pushed with high pressures as can unilateral cases and so, if collapse is to be obtained, must have the adhesions burnt. It might be further illustrated by the following cases:

CASE IX. Mrs. W. J. P. was diagnosed to have pulmonary tuberculosis and given a few months rest in bed without closing her cavities (Fig. 27). Artificial pneumothorax was attempted and although a fairly satisfactory collapse was obtained, there was a good sized cavity held open by adhesions, (Fig. 28). The adhesions were burnt, and a satisfactory collapse was obtained (Fig. 29).

CASE X. Miss E. S., age 22, first diagnosed to have tuberculosis in February, 1930, with cavitation in upper lobe (Fig. 30). After a few months in bed on postural rest, shot bag, and so forth, the cavity was not closed, and she was started on pneumothorax. The cavity was not properly closed on account of multiple adhesions. This case was not under our care at that time, but I believe that the

same errors were made in the handling of the case that we have so often made ourselves under similar circumstances. A whole year was spent with the lung partially collapsed, the cavity remaining open and serving as a source of infection for the other lung which was already showing advancing disease Fig. 31, taken October, 1930). The pressures were consistently negative instead of an attempt being made to force the cavity together. This allows a thick wall to form, making more difficult the collapse by other means, and only postpones the evil day when the situation must be squarely met. We are all very prone to be guilty of this type of procrastination. We are fooled by the few symptoms caused by the partially collapsed lung with open cavity and do not like to face the fact that we have not solved the problem for the poor unfortunate. He is as far from the promised land of rehabilitation as ever. His cavity must be closed if he is to be able to work continuously, and the sooner some real attempt is made, the better the chance of success, and the less the economic loss. When this case came under our care in June, 1931, we found a partially collapsed lung on the left with an uncollapsed cavity held by adhesions, while on the right there was also cavitation (Fig. 32). To retreat and stop pneumothorax would leave her helpless with really nothing in prospect except chronic invalidism and death. It was determined to face the situation hopefully and, if need be, go down fighting. First, burn the adhesions on the left and get the cavity down if possible, and then start the right lung under pneumothorax, continuing them simultaneously. This was done. It was necessary to burr the adhesions on the left three times before the lung was entirely freed. Roentenogram (Fig. 33) shows the cavity on the right held by what looks like a single band of adhesion, and this was burned. It is hoped that the cavities can be closed on both sides. With the cavities closed, her outlook should be good. Note subsequent film (Fig. 34).

PHRENICECTOMY

Phrenicectomy must not be overlooked as one of the very simplest of all means of cavity closure, occasionally working where rest in bed, postural rest, shot bags, and pneumothorax have failed. It puts the patient to the least inconvenience and is the most economical of all methods of cavity closure. It disturbs the patient less than the usual initial pneumothorax treatment. Of course, it has limitations but occasionally one can close a cavity with it in an astounding way. Cavities at the apex respond almost equally as well as basal cavities, and I have chosen three cases for illustration.

CASE XI. C. F., male, age 33 years. Diagnosed to have pulmonary tuberculosis in March, 1930 (Fig. 35). He was put to bed and usual closure methods tried including pneumothorax. Adhesions prevented collapse (Fig. 36). Phrenicectomy was performed in the fall of 1930 with striking results in the way of closure of his cavity (Fig. 27).

CASE XII. C. B., male, age 26. This was a very advanced case with extensive involvement throughout the right side wtih multiple cavities in the upper lobe (Fig. 38). Artificial pneumothorax was attempted but failed on account of adhesions. It was seen under the fluoroscope that the diaphragm was quite movable. Although it was felt that thoracoplasty would probably have to be done, phrenicectomy was done in November, 1929, with very gratifying results (Fig. 39). He continued to improve, gained 22 pounds, and lost all his symptoms and now seems perfectly well. Diaphragm has risen surprisingly high (Fig. 40).

CASE XIII. R. S., male, age 21. Diagnosed to have cavernous tuberculosis in fall of 1929 (Fig. 41). He was recommended for pneumothorax but was afraid, and it was not tried until the fall of 1930. It failed on account of adhesions. Postural rest and shot bag were of no avail. Finally phrenicectomy was done with splendid closure (Fig. 42). All symptoms have disappeared and he seems to have solved his difficulties.

EXTRAPLEURAL PNEUMOLYSIS

Failing in other methods of cavity closure, extrapleural pneumolysis may be used in certain cases with good results. I believe it is applicable to a comparatively small number of patients. It should not be used until pneumothorax has been tried and found ineffectual. With an apical cavity and a comparatively good lung below it may seem advisable to do a paraffin filling. Our own experience has been only fairly successful.

CASE XIV. J. B., male, age 38. Diagnosed to have pulmonary tuberculosis in 1927. An x-ray in 1928 showed very extensive exudative lesions throughout the upper two-thirds on the right and upper third on the left. He disappeared and was next seen until March, 1931, when an x-ray showed a huge cavity in the upper right with considerable clearing of the lesions in the lower right and upper left (Fig. 43). Although it seemed most improbable that it could be effected, pneumothorax was attempted but failed on account of adhesions. Paraffin filling was done in June, 1931 (Fig. 44). He had been expectorating about four ounces a day before the operation. This is reduced to about one-half that amount and he feels much stronger and better although not well.

CASE XV. Mr. C., diagnosed to have tuberculosis in 1928. First picture we have is in November, 1930. Pictures in 1931 show progress cavitation (Fig. 45). Pneumothorax failed. Paraffin filling done about a

month ago (Fig. 46). Cavity is not completely obliterated but partially closed.

CASE XVI. Mrs. M., age 26. Diagnosed to have tuberculosis in 1928. She first came under our observation in June, 1930, at which time there were large cavities in the upper right (Fig. 47). Pneumothorax was tried in the fall of 1930. An incomplete collapse was obtained. Phrenicectomy was then performed (Fig. 48). A first stage thoracoplasty was done in December, 1930. There was a bad reaction and it was feared a spread into the other lung had taken place. She gradually improved but the second stage was not done until May, 1931. This long delay together with an immobile mediastinum resulted in the cavities not being completely closed (Fig. 49). Paraffin filling was done in November, 1931. This seems to have closed the remaining cavity and she is in excellent condition.

THORACOPLASTY

Thoracoplasty as a method of cavity closure is rather a court of last resort. It will often succeed after the entire gamut of bed rest, postural rest, shot bags, artificial pneumothorax, phrenicectomy, and extrapleural pneumolysis with paraffin filling have been tried and found wanting. Thoracoplasty is usually approached with a great deal of trepidation on the part of the patient on account of the operative mortality, but is a very hopeful thing to do as far as elimination of cavitation is concerned. It is preferable to allowing the patient to try and work with a fair sized cavity on one side, presuming of course that the contralateral lung is in sufficiently good condition.

CASE XVII. Mrs. C. B. W., age 28. First taken sick in February, 1929. First diagnosed tuberculosis in January, 1930, at which time the involvement was extensive on right side (Fig. 50). Pneumothorax was attempted and failed, and phrenicectomy was done in February, 1930. Splendid results were obtained but not sufficient closure. Thoracoplasty was done in stages in April, 1931, and now cavities are apparently completely closed (Fig. 51). She is in good condition.

CASE XVIII. Mr. O. H., age 23. First diagnosed tuberculous in 1928. X-ray in November, 1930, showed atelectasis of left lung with cavitation (Fig. 52). Expectoration about two ounces. Pneumothorax failed. Thoracoplasty was done in stages in May, 1931. He now is in splendid condition with cavities closed (Fig. 53).

CASE XIX. Miss O. J., age 30. First found to have tuberculosis in the fall of 1928. She came under our care early in 1929. At that time there were large cavities in the upper lobe on the right with some surrounding exudation (Fig. 14). Pneumothorax was attempted (Fig. 15), but finally was abandoned after rather high pressures proved unsuccessful in closing the cavities. The lung was allowed to re-expand and in the fall of 1930 x-ray still showed the cavities (Fig. 16). She felt very well but had considerable expectoration still positive for tubercle bacilli. It was thought best to do a thoracoplasty which was done in stages in April, 1931 (Fig. 57), She is in very good physical condition, with only very slight expectoration. It is still undecided whether anything further is necessary, but it is thought that probably no other operative procedure will be required but only a little more bed rest.

CASE XX. Miss L. M., age 33. Frist diagnosed to have tuberculosis in 1927. She cam eunder our care in February, 1929, with extensive cavitation in the right lung (Fig. 58). Pneumothorax was started in July, 1929. A good collapse was obtained almost closing the cavities (Fig. 59). After a time, however, the cavity was pulled open by adhesions. Thoracoplasty was finally done with good results (Fig. 60). It would probably have been impossible ever to have allowed this lung to re-expand even though properly collapsed on account of the extreme amount of destruction before collapse. Thoracoplasty was probably necessary in this case in any event and should have been done earlier. It could probably not have been done without the preliminary course of pneumothorax on account of the very serious toxic condition of the patient which precluded operation.

These twenty cases have been selected in order to illustrate the various methods of closing cavities, and the purpose of this clinic will have been fulfilled if, through the medium of these patients, it has brought again to your mind the very important role that cavitation plays in the failure to rehabilitate the chronic tuberculosis patient. If it has been more clearly shown that a campaign for cavity closure must be planned, that it must be followed from one method to another and on to another until the cavity is eventually closed, then it has been all that I could have hoped.

Acknowledgment is made to Dr. Victor Randolph and Dr. Howell Randolph, who kindly cooperated in allowing several of their private patients to be shown in this Clinical Demonstration. Also to the Pathological Laboratory and Drs. W. Warner Watkins and H. P. Mills, of that institution who did the roentgenographic work and make the x-ray interpretations.

CAVITY CLOSURE BY BED REST.

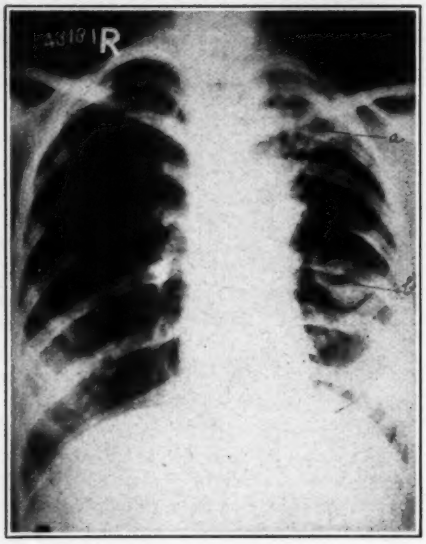

Fig. 1. Case I. Roentgenogram Nov. 30, 1929, showing two cavities on the left side, one at apex (a), and the other 4 cm. in diameter just below hilus level (b).

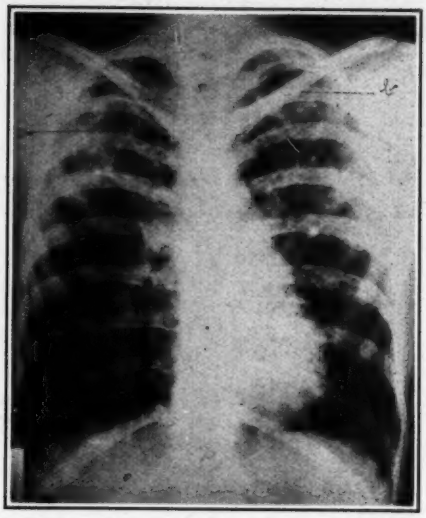

Fig. 3. Case II. Roentgenogram of December, 1930, showing cavity at each apex (a and b), and exudative involvment through both upper lung fields.

Fig. 2. Case I. Roentgenogram of patient shown in Figure 1, Sept. 5, 1930, showing complete disappearance of the cavity near hilus. Cavity at apex (a) has not closed, probably being held open by pleural adhesions.

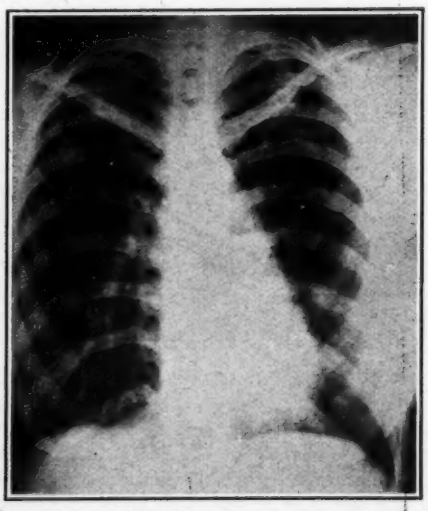

Fig. 4. Case II, showing condition on November 25, 1931, after rest in bed since February. Cavities have almost entirely disappeared, as have the exudative shadows through the upper lung fields.

CAVITY CLOSURE BY POSTURAL REST.

Fig. 5. Case III. Roentgenogram of Dec. 1, 1928, showing large cavity below left hilus (a) close to heart border, with some infiltration in lower right lung field.

Fig. 6. Case III, as shown by roentgenogram of Aug. 5, 1929, after four months postural rest. Cavity in lower left lung field has disappeared. Note decrease in length of chest from gain in weight.

CAVITY CLOSURE BY BED REST WITH SHOT BAGS.

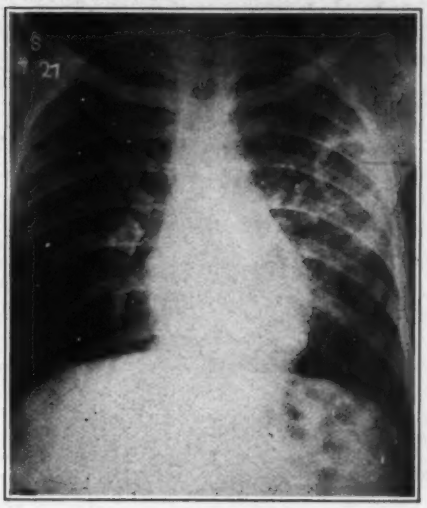

Fig. 7. Case IV. Roentgenogram of October, 1927, showing large cavity in upper left lung field (a), with surrounding exudative density.

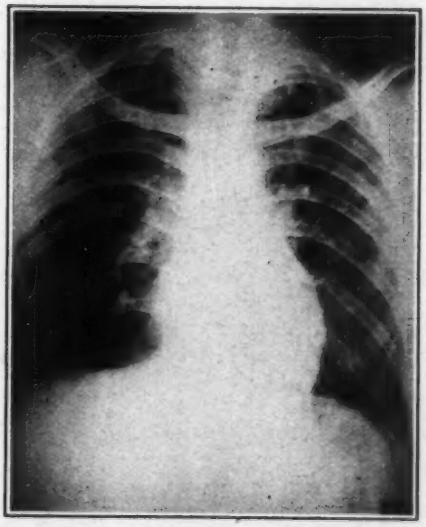

Fig. 8. Case IV, showing condition after seven months rest in bed with ten pound shot bag over cavity. The exudative density around the cavity has also disappeared.

CAVITY CLOSURE BY UNILATERAL ARTIFICIAL PNEUMOTHORAX.

Fig. 9. Case V. Roentgenogram taken June 23, 1928, showing hugh cavity involving almost entire upper left lung field, (c,c).

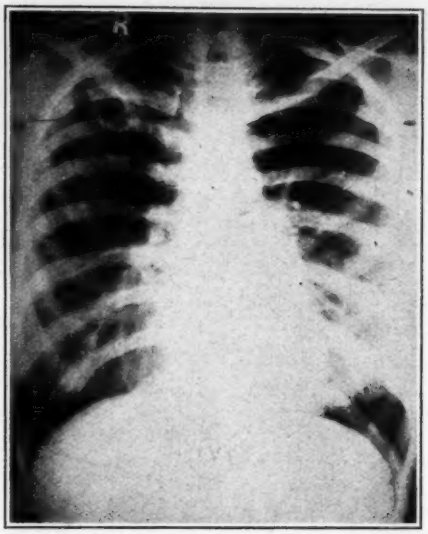

Fig. 11. Case VI. Roentgenogram of Oct. 25, 1929, showing cavity in upper right lobe below clavicle (a).

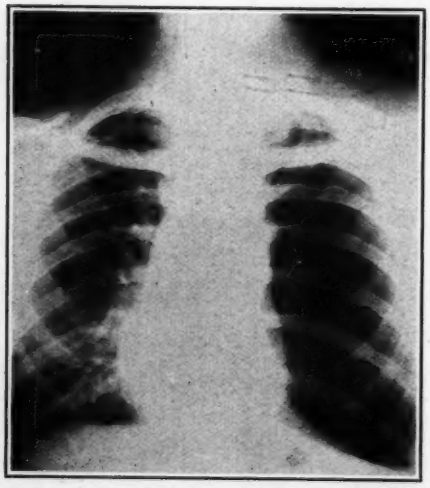

Fig. 10. Case V, roentgenogram taken Oct. 15, 1931, nearly two years after establishment of pneumothorax on the left side. Large cavity is entirely closed, with pressure sufficient to cause slight displacement of heart and mediastinum to the right.

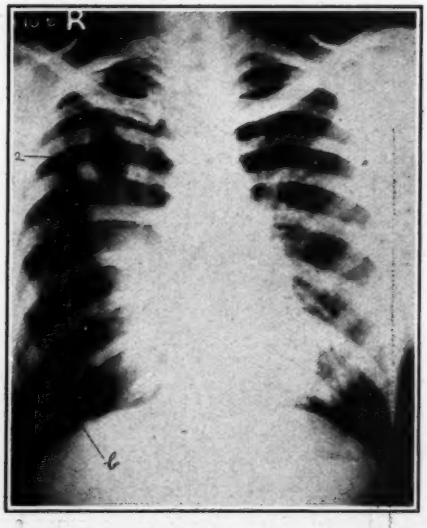

Fig. 12. Case VI, showing extent of pneumothorax under moderate pressure, and clear outline of unclosed cavity, (a), and pleural adhesion between lung and diaphragm, (b).

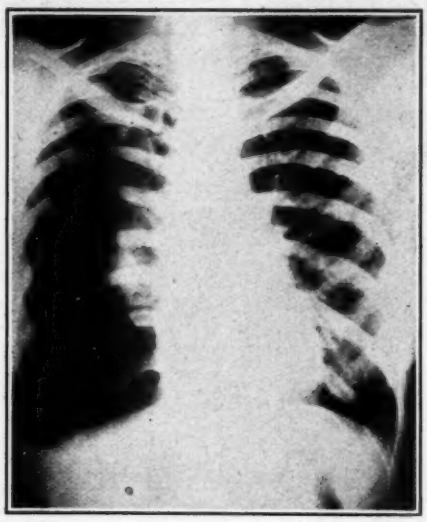

Fig. 13. Case VI, showing the effect of high pressure in freeing adhesions and closing the cavity. Note that there is no material displacement of the mediastinum by the high pressure.

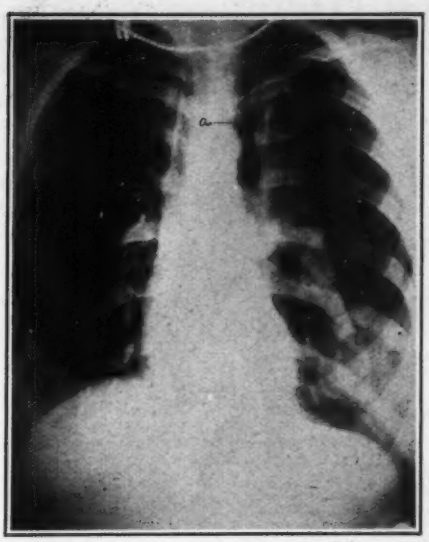

Fig. 15. Case VII, showing condition on Dec. 14, 1929, after pneumothorax had been established on the left side; note the unclosed cavity in upper portion of collapsed lung (a).

CAVITY CLOSURE BY BILATERAL ARTIFICIAL PNEUMOTHORAX.

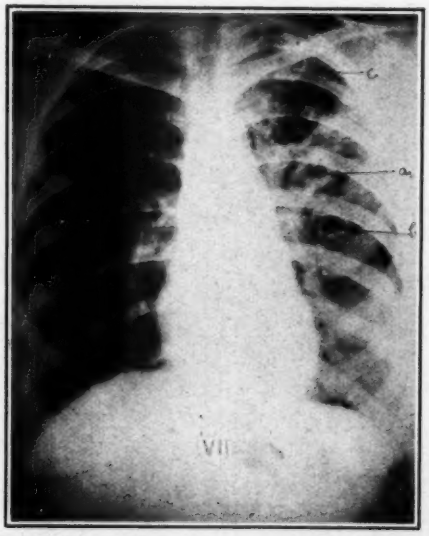

Fig. 14. Case VIII. Roentgenogram of April 25, 1929, showing cavities (a), (b) and (c), with exudative densities through upper left lung field. Right lung field free from abnormal shadow.

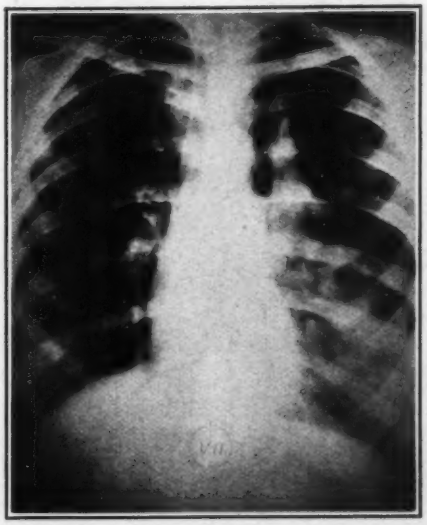

Fig. 16. Case VII, condition on March 10, 1930, with selective collapse of the upper lobe closing the cavity, and with the lower lobe expanded and functioning.

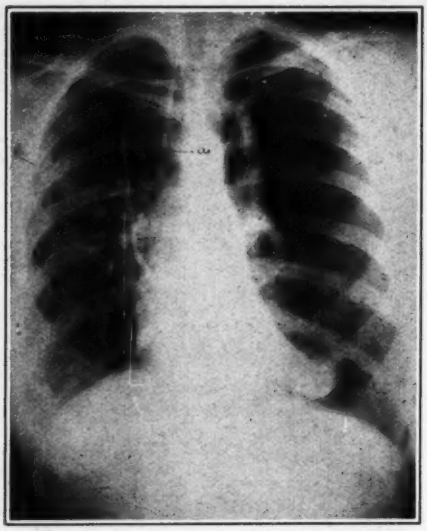

Fig. 17. Case VII, roentgenogram of Nov. 20, 1930, showing left lung collapsed, but with herniation of the mediastinum into right thorax (a), and definite areas of infiltration in the right lung field, (b).

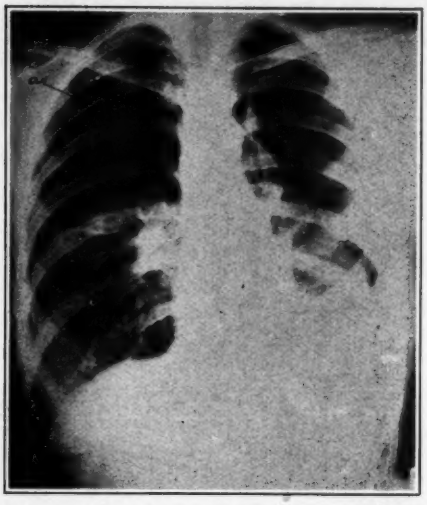

Fig. 20. Case VII, roentgenogram on March 23, 1931, showing selective collapse of the upper right lobe, closing the cavity, with pneumothorax still maintained on the left. Lung margin at (a) on right.

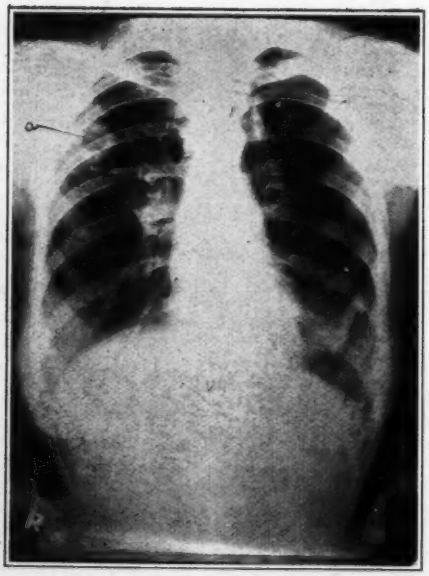

Fig. 18. Case VII, roentgenogram on April 22, 1931, showing distinct cavitation in the right lung (a), and satisfactory collapse still maintained on the left side.

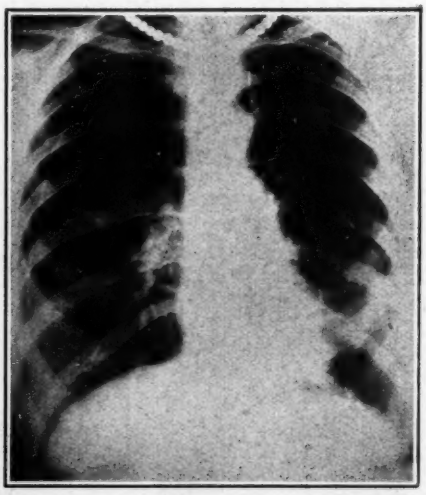

Fig. 20. Case VII, roentganogram on March 23, 1932, showing present condition of this ambulant patient, with bilateral pneumothorax, with selective collapse closing cavities in each upper lobe, and with lower lobe of each side functioning.

CAVITY CLOSURE BY ARTIFICIAL PNEUMOTHORAX PLUS INTRA-PLEURAL PNEUMOLYSIS.

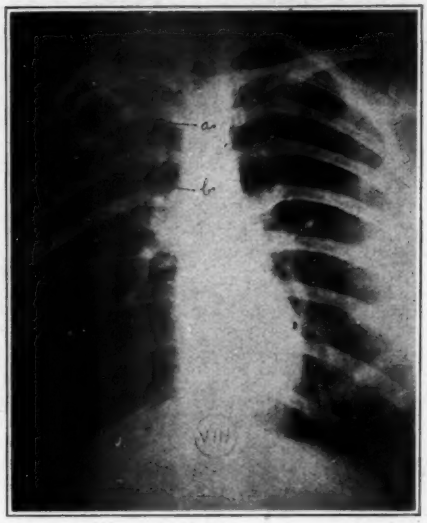

Fig. 21. Case VIII. Roentgenogram of July 29, 1927, showing exudative disease with one large cavity (a) and smaller cavities (b), in the upper right lobe. Left lung relatively free from disease.

Fig. 23. Case VIII, showing better collapse of cavity on right side (a), and definite cavitation in upper left lung (b).

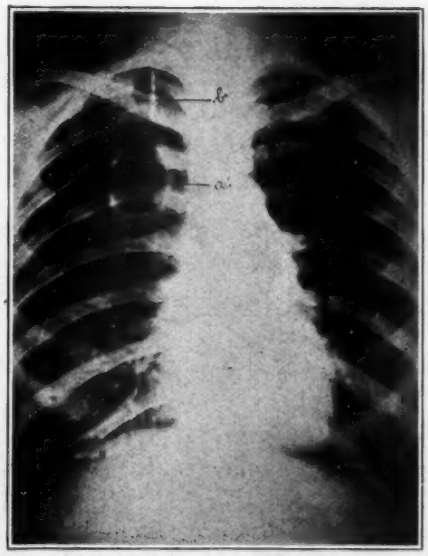

Fig. 22. Case VIII, showing pneumothorax on the right side, with incomplete closure of cavity (a), adhesion extending to apex (b).

Fig. 24. Case VIII, after first stage of intra-pleural pneumolysis. One band of adhesion to apex still present (a). Cavities at left apex (b).

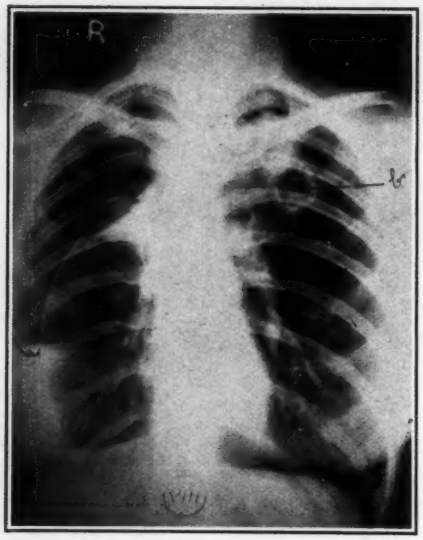

Fig. 25. Case VIII, after completion of pneumolysis for severing adhesions holding upper right lobe, and after beginning the pneumothorax on the left side. Upper right lobe cavity is finally entirely closed, there is a small amount of fluid in lower right pleural space (a). The cavity in the upper left lobe (b) is partly closed.

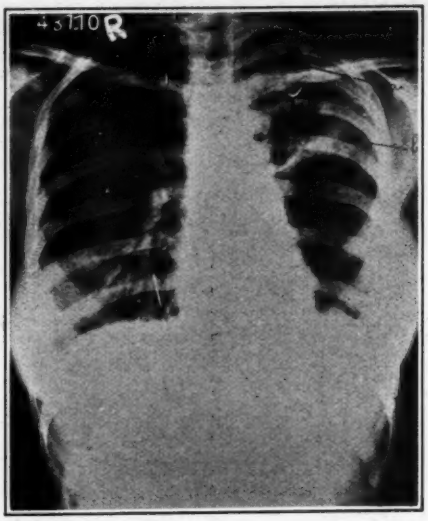

Fig. 27. Case IX. Roentgenogram of Jan. 13, 1928. Shows fairly extensive involvement of upper left lung field, with multiple small cavities (a), (b).

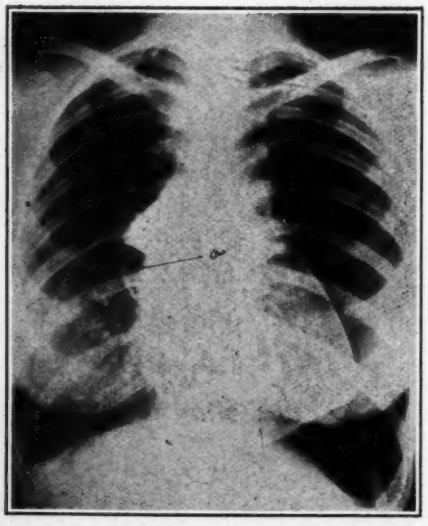

Fig. 26. Case VIII, roentgenogram of Jan. 26, 1931, showing degree of bilateral collapse carried by the ambulant patient. Cavities in each upper lobe are satisfactorily closed. At (a) is shown the border of the mobile mediastinum.

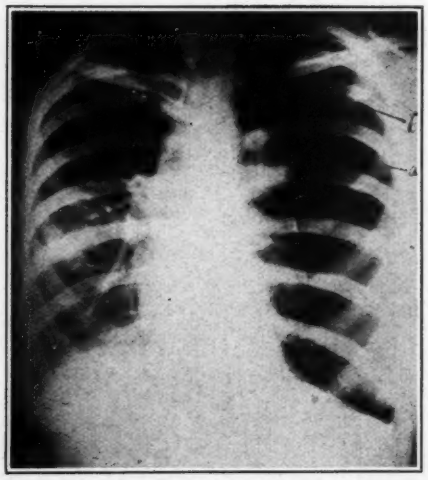

Fig. 28. Case IX, roentgenogram of July 11, 1928, showing extent of collapse. Fairly large cavity (a) is shown with incomplete collapse on account of adhesions (b).

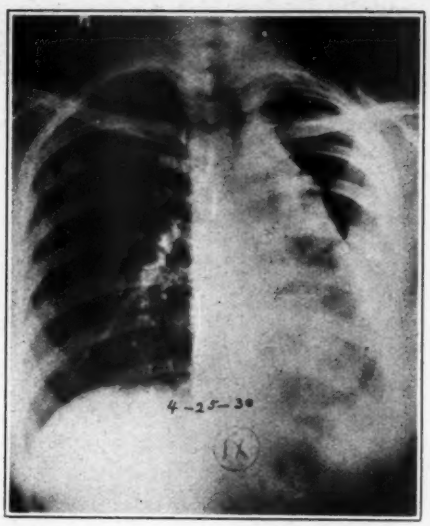

Fig. 29. Case IX, roentgenogram showing conditions after intrapleural pneumolysis had freed adhesions and allowed satisfactory collapse of upper lobe cavity.

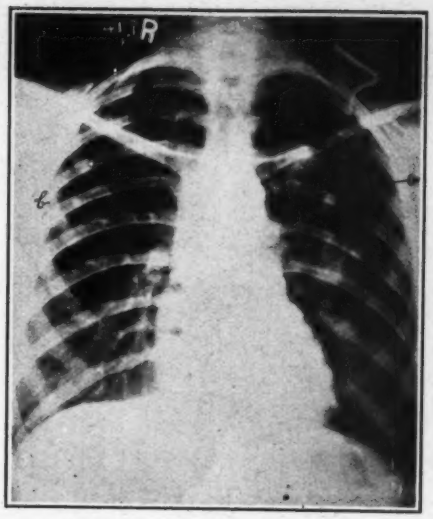

Fig. 31. Case X, showing incomplete collapse of left lung, with cavity not closed (a), on account of pleural adhesions. There is definite extension into the right lung (b).

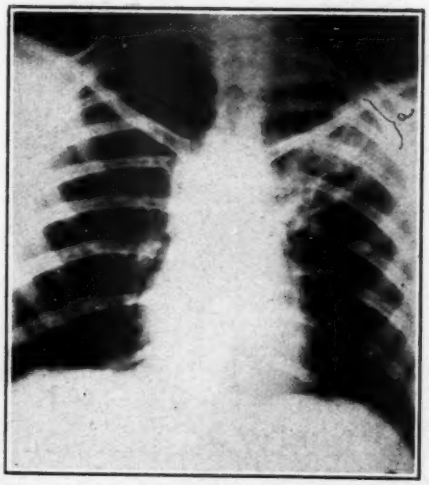

Fig. 30. Case X. Roentgenogram of February, 1930, showing large cavity in the upper left lobe (a), with surrounding infiltration.

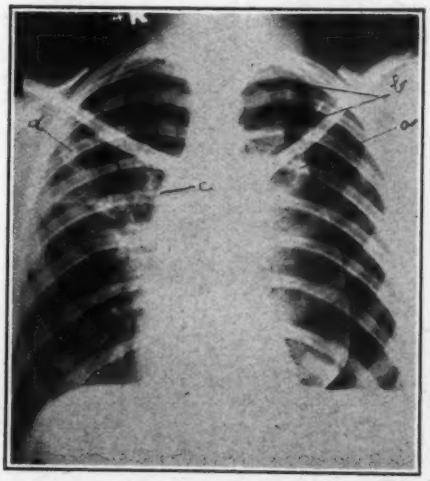

Fig. 32. Case X, roentgenogram of June 15, 1931, showing incomplete closure of cavity on the left, as in Fig. 31 (a), with adhesions (b), and some mediastinal herniation (c). There has been further extension of the process on the right, with cavity formation now evident (d).

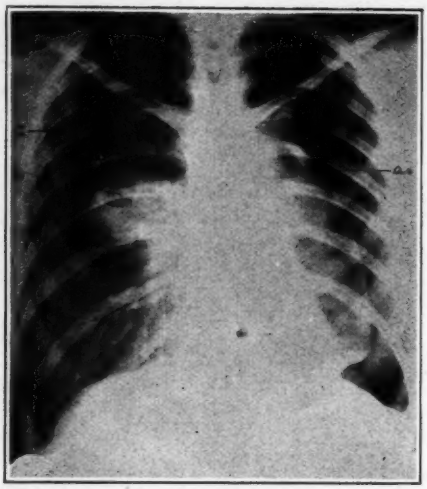

Fig. 33. Case X, showing conditions on Oct. 30, 1931, after intrapleural pneumolysis had freed the adhesions on the left, with much better closure of cavity (a). Pneumothorax has been instituted on the right, complete collapse of the cavity (b), being prevented, for the time, by a narrow band of adhesion (c).

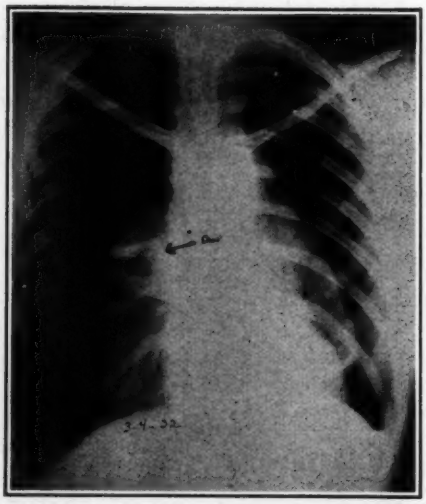

Fig. 34. Case X, showing conditions on March 4, 1932. Cavity has been closed on the left. The adhesion on the right has been freed by intrapleural pneumolysis, and this cavity has almost entirely closed (a). This illustration shows very graphically how little functioning lung is required to keep a patient in comfort. This patient can walk about and climb stairs with hardly perceptible increase in respiratory rate.

CAVITY CLOSURE BY PHRENICECTOMY

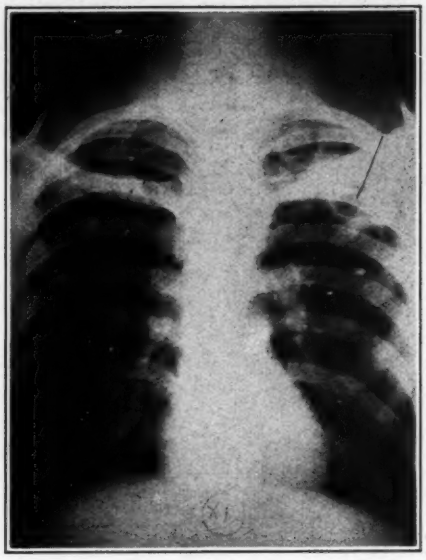

Fig. 35. Case XI. Roentgenogram of March 6, 1930, showing large cavity in upper left lung field, under clavicle (c).

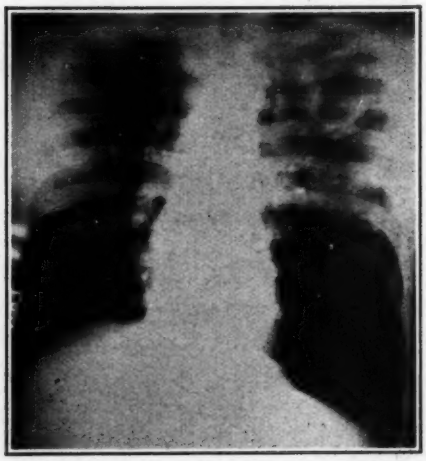

Fig. 36. Case XI. (April, 1930), shows attempt at closure of cavity by pneumothorax. This was not successful in closing cavity, as apex was held by adhesions. Lower lobe is collapsed.

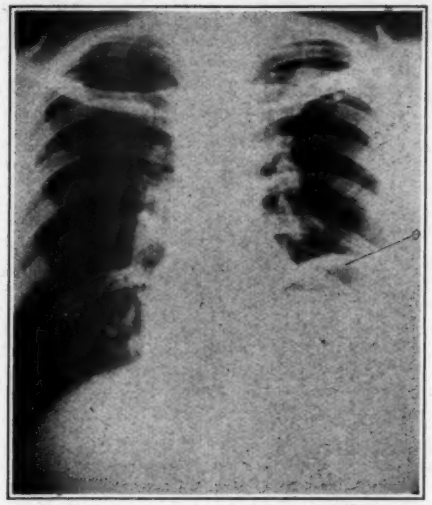

Fig. 37. Case XI, showing conditions on June 16, 1931, after phrenicectomy, which was done several months previously. Note the entire disappearance of the cavity. Position of left diaphragm with gas-outlined fundus of stomach at (a).

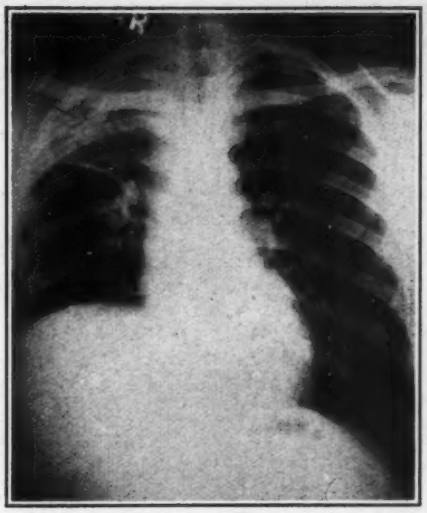

Fig. 39. Case XII, roentgenogram of Dec. 10, 1929, showing position of diaphragm after phrenicectomy on the right. Much of the exudative type of density has disappeared, cavity has decreased noticeably in size (c).

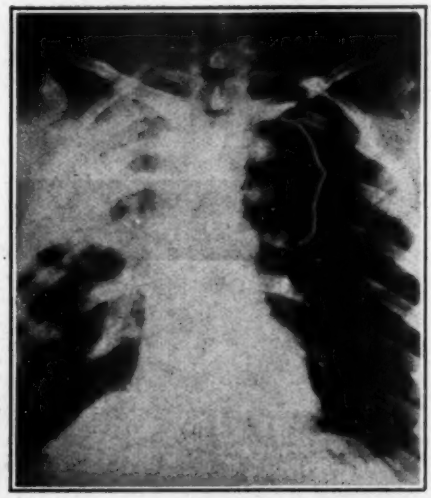

Fig. 38. Case XII. Condition on June 14, 1929, with extensive coalescing densities and cavitation in upper right lung, showing exudative lesions along heart border as low as diaphragm.

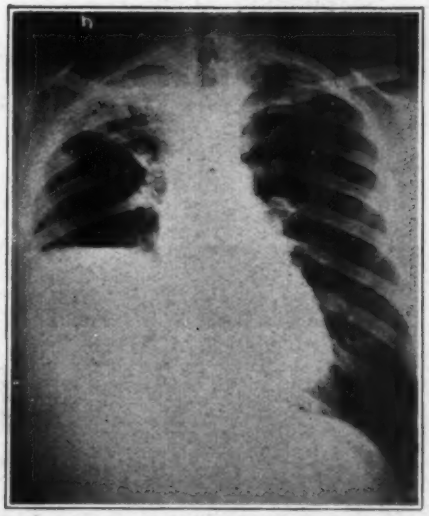

Fig. 40. Case XII, showing conditions in Oct., 1930, with disappearance of all densities in the basal area, closure of cavity in the upper lobe and healing of lesions around cavity by fibrosis. Diaphragm is even higher than it was in Fig. 39, probably due to increase in weight.

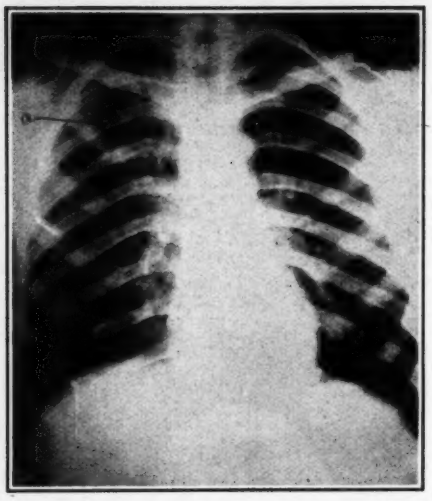

Fig. 41. Case XIII. Roentgenogram of October, 1929, showing involvement in upper right lobe, with cavity formation (a). Left lung fields free from significant densities.

CAVITY CLOSURE BY EXTRAPLEURAL PNEUMOLYSIS.

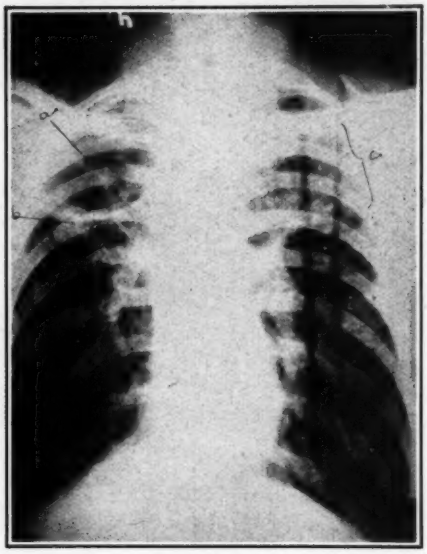

Fig. 43. Case XIV. Condition of lungs in March, 1931, with very large cavity in upper right lung field (a), with surrounding infiltration (b), and some exudative involvement in the upper left lobe (c).

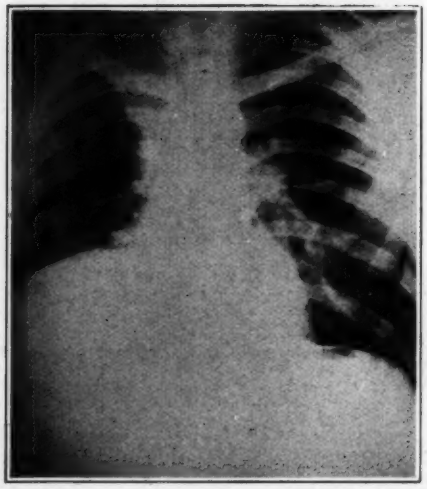

Fig. 42. Case XIII, showing conditions in October, 1931, with cavity healed, following phrenicectomy.

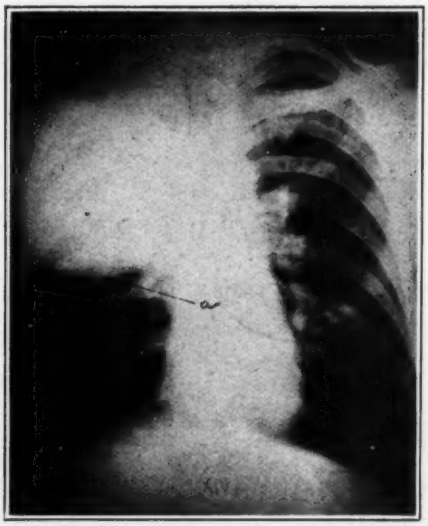

Fig. 44. Case XIV, after obliteration of cavity by extrapleural pneumolysis by paraffin filling. Note at (a) the tendency of the paraffin to sag.

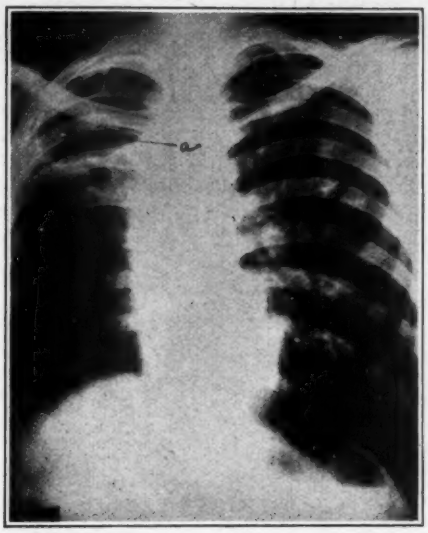

Fig. 45. Case XV. Roentgenogram of October, 1931. Very large cavity in upper right lobe, with infiltration density below it (a).

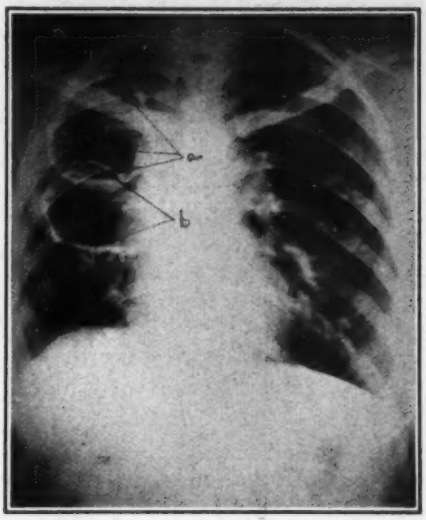

Fig. 47. Case XVI. Roentgenogram of June, 1930, showing very large double cavity (a), (b), occupying most of upper two thirds of right lung.

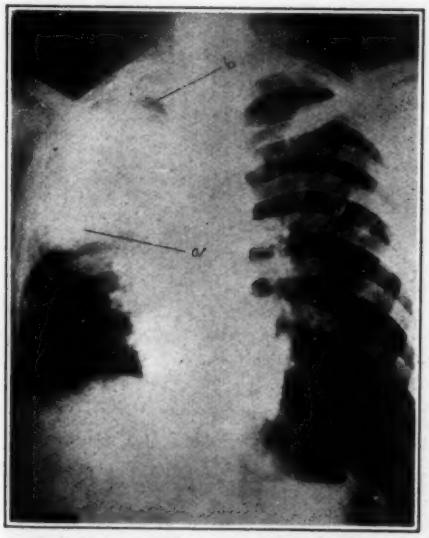

Fig. 46. Case XV, after extrapleural pneumolysis by paraffin filling (a). Paraffin has sagged down leaving area of incomplete closure at apex (b).

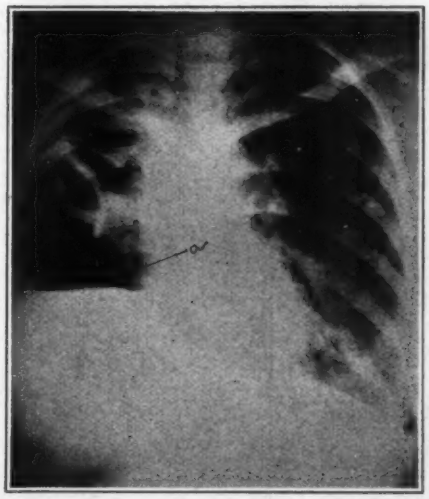

Fig. 48. Case XVI, in November, 1930, after unsuccessful attempt to collapse the cavities by pneumothorax, supplemented by phrenicectomy. There is some fluid in the pleural space, above which the elevated and paralyzed diaphragm can be seen (a).

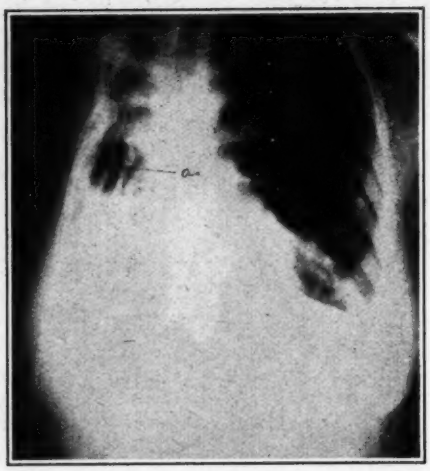

Fig. 49. Case XVI, in June, 1931, after second stage of thoracoplasty. Immobility of mediastinum resulted in incomplete closure of cavity (a). This has since been closed by paraffin filling.

Fig. 51. Case XVII, after establishment of collapse of cavities by thoracoplasty.

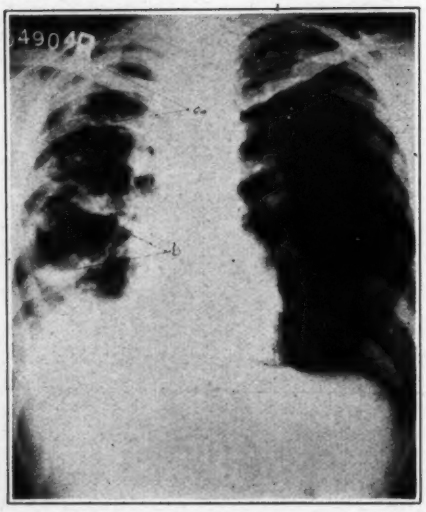

Fig. 50. Case XVII. Roentgenogram at time diagnosis of tuberculosis was made in January, 1930. Extensive right sided involvement, with large multiple cavities (a), (b).

Fig. 52. Case XVIII. Roentgenogram taken November, 1930. Shows atelectasis of left lung, with cavitation in upper portion. Apparently little or no involvement on the right. Note displacement of heart into dense side of chest.

Fig. 53. Case XVIII, after thoracoplasty, obliterating the pleural space on the left and closing the upper lobe cavities.

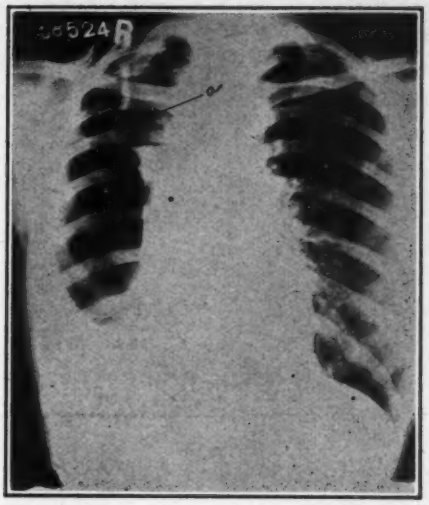

Fig. 55. Case XIX, after collapse by pneumothorax, which was not successful in closing the apical cavity (a). Fluid in pleural space (b).

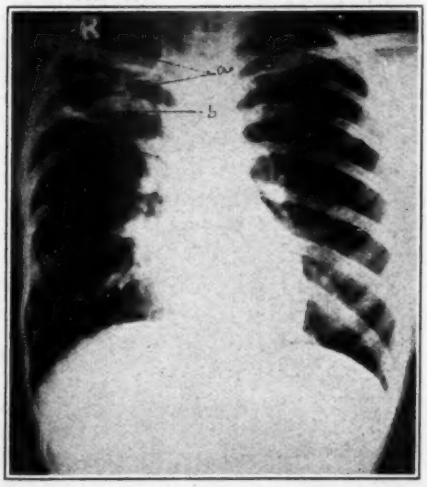

Fig. 54. Case XIX. Roentgenogram of March, 1929, showing large cavities in upper lobe of right side (a), with some surrounding exudative density (b).

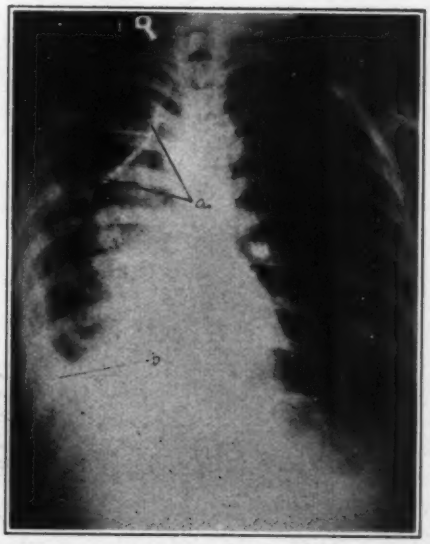

Fig. 56. Case XIX, in March, 1931, after lung had expanded. Cavity still present (a), larger than before. Some atelectasis of lung tissue (b), with some displacement of heart to the right.

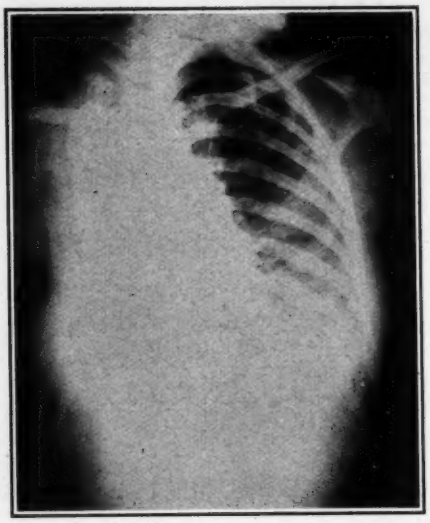

Fig. 57. Case XIX, in November, 1931, after thoracoplasty, showing pleural space obliterated and cavities closed.

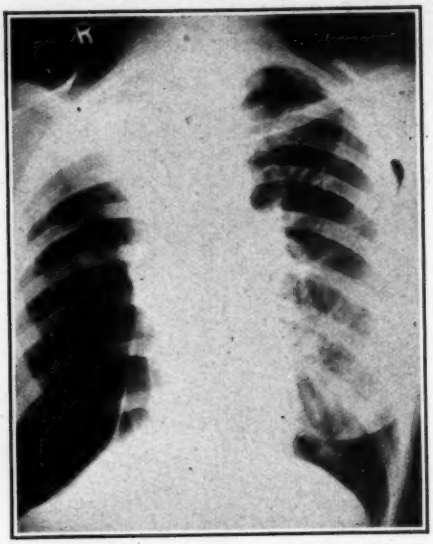

Fig. 59. Case XX, in September, 1930, showing attempt at closure of cavities by pneumothorax, and failure on account of adhesions.

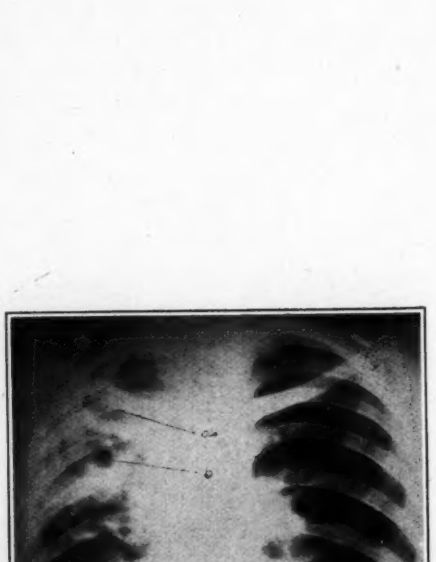

Fig. 58. Case XX. Roentgenogram in February, 1929, showing extensive cavitation and much surrounding exudative density through lung field on the right. Cavities at (a), (b) and (c).

Fig. 60. Case XX, after complete collapse of lung and closure of cavities by thoracoplasty.

STATE HEALTH DEPARTMENTS, THEIR HISTORY AND ACHIEVEMENTS

PLATT W. COVINGTON, M. D.
Western Representative, International Health Board of Rockefeller Foundation

(Read at the Eighth Annual Meeting of the New Mexico Public Health Association, Carlsbad, April 18-20, 1932).

HISTORY

In the Seventeenth and Eighteenth Centuries there were no permanent organizations in this country to promote public health. When epidemics of such proportions as to cause wide-spread alarm occurred, a committee would be appointed following a public meeting, consisting of several of the local medical practitioners, whose duty it would be to promulgate and enforce quarantine regulations, usually of the kind now referred to as "shot-gun quarantine."

In England, following a wide-spread epidemic of cholera in 1831, 1849, and 1854, a commission was appointed to investigate the situation. Largely as the result of the publicity given the findings of this committee, and the fear that such epidemics might continue to occur at frequent intervals, a law was enacted by parliament providing for the appointment of a general board of health and local boards of health to recommend measures to improve the public's health, and for the appointment of part-time health officers, selected from the practitioners of medicine, whose duty it would be to carry out, or enforce, the recommendations of the local board of health. This law was enacted in 1849 and is referred to in this article inasmuch as early public health procedures in this country were largely copied from the English. In 1869, a Royal Sanitary Commission was appointed in England. Following its first report, a law was proposed and introduced in parliament, which, if passed, would have established a national health department. It was defeated, but prior to the introduction of this law, in 1849, a central board of health had been created.

At this date, we had not progressed as far as England in public health matters because of our scattered population and, therefore, less apparent need for such legislation. In 1850, a report was made, and widely published, of the sanitary conditions of Massachusetts—the first sanitary survey ever made in this country. In this remarkable study, aside from its historical interest, the suggestion was made that a state board of health be created. It also outlined the manner of its organization and its duties.

In France, at about this time, Pasteur was revolutionizing the world's medical knowledge, making it obvious to many thoughtful people that the common methods of combating epidemics were insufficient.

Louisiana, in 1855, was the first state in this country to establish by law a state board of health. It was primarily for the purpose of better enforcing the State's maritime regulations, in order to prevent epidemics of yellow fever. Fourteen years later, Massachusetts established a state board of health. This was just twenty years after it had been so strongly recommended by Samuel Shattuck, a layman, in his sanitary survey of that state. California was next, in 1870, just one year after Massachusetts. Virginia and Minnesota did so two years later, in 1872. New Jersey, North Carolina, Illinois and Mississippi, in 1877. South Carolina, Connecticut, and Rhode Island, in 1878. And so on; every few years, other states were added to those having a state board of health. New Mexico joined the others in 1919.

Instead of a state board of health, Connecticut, Maine, Massachusetts, New York, Ohio, and West Virginia, have a public health council which functions on the whole as an advisory board. The duties of this body in Connecticut are somewhat unusual in that the law creating it specifies three funcctions: (1) to establish a sanitary code for the state, (2) to report biennially to the governor regarding the activities of the state health department, and (3) to approve such appointments on the staff of the state health department as may be made by the governor from time to time.

Three states—Idaho, Nebraska, and Oklahoma—do not have a state board of health or an advisory public health council, though one of them, Okklahoma, has a state health department, and the other two a state public

health bureau within the state welfare department. In the remaining thirty-four states, the state board of health is supervisory to the state health department. It also formulates the policies of the state health department and has certain legislative authority in making rules and regulations for the purpose of preventing the spread of communicable diseases.

In Alabama and South Carolina, the state board of health differs considerably from those in other states. In Alabama, the State Medical Society is the state board of health. This body elects, from its members, a state board of censors, consisting of ten members. The governor is also a member and ex-officio chairman of hte board. This body is the acting state board of health and selects the state health officer. The South Carolina Medical Society, together with the state's attorney general and the state's comptroller general, compose the state board of health. This association elects seven members who are appointed by the governor to constitute the executive committee, this committee corresponding, in the duties it performs, to the state board of health.

The early conception of the duties of the state board of health was that they should investigate the cause of diseases, giving advice as to the manner of their prevention, to the citizens of their state, and especially to the legislature. For a long period, many state boards of health continued to adhere very closely to this program, refusing to assume other responsibilities, doubtless due to the precedent established by Massachusetts.

Combating epidemics was considered the sole duty of these sanitary authorities. Scavenging, sewers, and ventilation, were the chief weapons of defense. They were invariably depended upon during that era to destroy contagion. The theory of the spontaneous origin of the causative agents of disease through the decaying and fermentation of vegetable and animal matter, was then at the height of its popularity.

In the issue for January 22, 1921, of the Journal of the American Public Health Association, Chapin, the father of modern public health procedures in this country, stated,

Although there were some important truths in the generalizations of the early promoters of public health in this country, and although their projects for civic betterment saved many lives and did much for human comfort and convenience, there were several errors which have had an unfortunate influence on preventative medicine and still have today. One of these is that disease breeds in filth instead of being carried in filth. Another is that all kinds of dirt are dangerous, not merely the secretions and the excretions from the human body. A third unfortunate hypothesis is that infecticus diseases are usually air-borne.

In view of such theories at the time, it is not surprising that, in the efforts to prevent epidemics, mistakes were made. It must be recalled that the science of bacteriology had not then shed its light upon the subject. Small wonder it is, that even in this more enlightened age, health officers not unusually have to contend with individuals whose conception of public health procedures are still influenced by the archaic practices of the past, and that they should find individuals of this class opposing modern public health practices. In fact, those of us engaged in public health work know that it is necessary, in order to put over our plans frequently to oppose the views of many otherwise well-informed citizens, who continue to hold to the opinion that it is the duty of the health officer to abate nuisances, clear the streets, alleys, and residential yards of rubbish, placard the homes in which quarantinable diseases occur, and fumigate these houses after the diseases have disappeared. These persons overlooked the fact that our knowledge concerning the spread of disease from one individual to another has enormously increased during the past fifty years, and that research work in recent years has proved, beyond any shadow of a doubt, that such activities will have but little influence on a community's morbidity rate.

It is only within recent years that the brilliant discoveries of the causative agents of our more common diseases have materially altered public health procedures. The modern conception of disease prevention has been in practice for only about thirty years. During this time, attention has been directed more and more to the individual rather than to the community as a whole. Education has become an important part of its

program, and it is the education of the individual which is aimed at. All modern public health movements, like the one against hookworm disease in the south by the Rockefeller Sanitary Commission, those against tuberculosis and veneral diseases, those for the prevention of infant mortality, immunization activities of state and local health departments, the periodical physical examination of well people who have passed middle life, and the physical examination of school and pre-school children, are directed toward the individual. They teach the right way of living, detect physical defects in their incipiency, and offer opportunities for their correction. Thus are health departments decreasing the amount of disease by combating epidemics, and by increasing the individual's resistance to dsiease.

THE NEGLECTED FIELD OF PUBLIC HEALTH

Although the record in the saving of human lives cannot be duplicated by any other human endeavors in the world's history, there is much yet to be done. This will apply, to an equal degree, in our larger cities where modern health departments may be seen at their best, as well as in the rural districts where public health conditions remain deplorable, though the lives of those living in such districts are just as valuable and potentially of as much promise as those in the cities.

In 1900, the death rate from all causes, in the registration area of this country was 17.6 per thousand population. Twenty-seven years later, in the same area, it was 11.9 a decrease of 32.4 per cent. During the same period, in the cities of this area, the decrease was 37 per cent; whereas, in the rural part of this area, it was only 29 per cent.

In this comparison, no allowance has been made for the differences in the age, six, and racial distribution, of the population in the two areas, rural and urban. However, were the rates standardized, the contrast would be even more striking, as the population in the cities contains a larger element of immigrants and colored people, whose death rate is universally higher than that of the native stock, of which our rural population chiefly consists. Thus, it is seen that our country districts, which heretofore have had a lower death rate than the cities because of certain inherent advantages, are rapidly losing their position, because of the superior public health administration in cities.

The protection of the health of the public is admitted and recognized, the world over, as a government function. Its cost, even in rural areas, when paid by not too small a group of population, is rarely excessive. Five-sixths of the counties in this country are entirely rural. About one per cent have no incorporated towns whatever. More than fifty per cent have no incorporated towns of more than 2,500 population. To provide public health administration approaching adequacy, in this large area is a duty of the government, and of all governmental units. The county, with possibly aid from the state health department and the federal health department, is best qualified to assume this responsibility. The experiences of many states have shown that the county is the most ideal unit for rural public health administration. The solution of the problem lies in the organization of efficient full-time county health departments, or county. health units. When such becomes universal rather than the exception, as is now the case, we may expect a decline in the rural death rate to equal, if not to exceed, the decline in the urban death rate.

Full-time health departments were first established in our large cities. The states of North Carolina, Kentucky, and Washington, were the first to have a rural county place its public health work on a full-time basis. Jefferson county, Kentucky, did so in 1908.

On December 31, 1923, there were 230 rural counties maintaining a full-time health department. December 31, 1924, 279; for the same period in 1925, 299; 1926, 342; 1927, 412; 1928, 461; 1929, 491. Thus it is seen that the number increases from year to year. Once given a trial, it is exceptional for the full-time health departments to be discontinued. Of the states having the largest number, Ohio leads the list, with more than half of her counties maintaining a full-time rural health organization; Alabama and North Carolina occupying second

and third place. Assuming the same intelligent public health leadership as they have had in recent years, Alabama will probably be the first state in which each of its counties will have a full-time health department. The states making the most progress in organizing them are those in which they have been subsidized by the legislature and in which the state health department is showing the most aggressive and intelligent public-health leadership.

For the historical data referred to in this article, the writer is indebted to Bulletin 184 of the United States Public Health Service, entitled, "A Survey of State and Provincial Health Departments," and to "A Half Century in Public Health," by Ravenel.

PROPHYLACTIC AND EARLY TREATMENT OF SYPHILIS

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(Read before the Santa Fe County Medical Society)

PROPHYLACTIC TREATMENT

By prophylactic treatment I mean treatment undertaken after the time of exposure to infection and before infection is established. It is now a quarter of a century since Metchnikoff and Roux demonstrated on monkeys that the spirochete could be killed on the mucous surfaces by 33 per cent mercury ointment, up to 12 hours after implantation, and no chancre result from the exposure to infection. This knowledge was used to some extent and to good purpose during the war but now is seldom reflected in treatment. It can be applied either by furnishing to the public "packets" containing the ointment, with instructions for its use, or by arranging for treatment immediately after exposure. Either course has been opposed on the ground that these methods encourage vice both by making promiscuous intercourse less dangerous and by the assumption that irregular sex relations are bound to occur. The case for and against self-disinfection was debated by two distinguished specialists in the International Journal of Public Health[1]. Examples are given there both of the striking success of self-disinfection in the British army and of its failure under civilian conditions. It is fair to add that prophylactic treatment as practised with success in the American army has been also used successfully in a public treatment center at Plymouth and perhaps elsewhere among civilians.

The bitterness of the original disagreement on this subject has passed with time and there is now a disposition to allow physicians and educators the right to preach continence or prophylaxis or both, according to the individual conscience. For my own part I have publicly urged, when I have had the opportunity, that any individual who finds that he or she has been exposed to any risk of infection, however remote, should immediately consult a doctor for prophylactic treatment, even though the doctor must be wakened in the middle of the night.

The technic of prophylactic treatment is so well described in a 10-cent pamphlet published by the U. S. Public Health Service[2] that I will not take time to discuss it here.

In addition to prophylactic treatment to be applied, if possible, within an hour of exposure, and certainly within twelve hours, the physician may have recourse, if he wishes, between the twelfth and forty-eighth hour to "abortive" treatment with arsphenamine. On the whole I am not in favor of this cure. It is, in my judgment, likely to be accepted only by a syphilophobe who has exaggerated the probability of infection. But there may be exceptional cases in which it is justified.

The prophylatic treatment of congenital syphilis is one of the most hopeful developments of preventive medicine at the present time. It is contingent upon (1) medical control of pregnancy from an early stage, and (2) routine Wassermann or Kahn tests in every case of pregnancy. Both of these essential preliminaries can be best promoted by joint action of the medical profession and public health agencies. Both private physician and public health officer should be urging, on all possible occasions, the importance of early and continued prenatal care. If a blood test is made by all physicians a routine part of such prenatal care, it loses any possible moral significance. It is only when the test is made occasionally that it may prove a source of embarrassment to physician and patient alike. Moreover, it has been quite con-

clusively shown that under the latter condition a majority of the cases of maternal syphilis will be missed. Here are some figures given by Professor Coler[3] of Columbia which indicate the proportion of sero-positive cases which may be expected in a prenatal clinic where routine examinations are made:

The Johns Hopkins Hospital Clinic	11.2%
The Ann Arbor Hospital Clinic	6.2 "
The Long Island College Hospital	6.0 "
The Detroit Board of Health	13.1 "
The Royal Maternity Hospital Edinburgh	6.5 "

Doctor Parker[4] derives an average of 8.3 per cent from a study of thirty-seven clinics in nineteen American communities.

Laurent[5] has studied the obstetric histories of 213 syphilitic women before and after treatment. Without treatment, only 26 per cent of the pregnancies gave live children who survived to three months. Only a few of them are free from syphilitic infection. After treatment, 92 per cent of the pregnancies resulted in live births surviving to three months of age and probably all healthy children at that time. Rorke[6] states that at the Royal Free Hospital (London) there has not been one child stillborn or showing signs of congenital syphilis at birth during the last five years, where the mother has had treatment during pregnancy. A study of 200 cases of syphilitic pregnancies at the Los Angeles Maternity Clinic[7] makes clear the importance of beginning treatment in the early months of pregnancy.

Treatment Begun	No. of Cases	Healthy Offspring	Syphilitic Offspring
Before 6 weeks	18	18	0
6 wk. to 3 mo.	45	44	1
3 mo. to 6 mo.	117	108	9
6 mo. to 9 mo.	20	12	8
	200	182	18

Halloran, who gives the above figures, endorses the treatment course of Fordyce and Rosen[8], which he summarizes as follows:

"A course of combined treatment consisting of six to eight injections of neo-arsphenamine in doses from 0.15 to 0.45 gm. at weekly intervals, and mercuric salicylate or mercuric chloride 1 grain once a week for 10 or 12 injections, the treatment being continued interruptedly throughout the entire period of pregnancy."

Most writers merely state, in regard to therapy of the pregnant woman, that she is a very good therapeutic risk.

EARLY TREATMENT

This brings me to routine early treatment. First, let me emphasize that the earliness is an important element in the success of treatment. The best illustration I have found of this is a paper by Louis Chargin and Abraham Stone[9] who report on the treatment of 444 cases. Their standards of apparent cure are reasonably high, including a follow-up period of at least eighteen months, with repeated Wassermanns during this period. It is of considerable public health significance that only thirty-eight of these patients came for treatment in the sero-negative stage. Of these thirty-eight no less than 90 per cent are classed as cures, whereas, for the total of 444 cases, only 60 per cent are so classed. As the authors say, the golden opportunity in the treatment of syphilis lies during the sero-negative period. This golden opportunity is also lost by the physician who waits for a positive Wassermann before beginning treatment. The State of Maryland is now providing outfits for the collection of serum to be examined by darkfield illumination in the state laboratories. New Mexico will follow suit as soon as the means to purchase these outfits can be discovered.

In regard to the technic of early treatment, there is pretty general agreement on the choice of drugs but intense disagreement as to the method of using them. The more treatment is piled on, the more likely is the spirochete to be killed, but also the more liable are we to poison the patient in the process. It was for this reason that the older syphilologists invented the rest period of one month after the first course and two months after the second and subsequent courses of treatment. Some excellent authorities still believe in this system with perhaps a little overlapping of mercury treatment into the rest period. Harrison[10] insists that concurrent treatment with arsenic and bismuth is necessary to achieve a cure. He points out that in his clinic 3,000 early cases of syphilis have been treated on this plan, with only one clinically manifest neuro-recurrence. When syphilis was treated by arsenic alone, neuro-recurrence was common.

"There seems," he says, "to be a sufficient reason for this in the fact that salvarsan abruptly ends the interaction between skin and parasite, and so the development of a protective immunity, but may fail to destroy the spirochetes in the central nervous system." He even goes so far as to say, "If my views are right, those who are now treating their early cases on the plan of alternating courses of arsenobenzene with courses of mercury or bismuth are laying up for their patients a heritage of neuro-syphilis." The challenge is taken up by Burke[11]. Neurorecurrence, he says, is evidence of inadequate treatment. His own experience with the alternating continuous treatment shows that it does not occur when treatment is adequate. The advantage of the alternating plan is, of course, that less strain is put on the eliminatory organs and so complications may be expected to be fewer. Chargin and Stone[9] found that the interrupted plan was as successful as the continuous plan and that their best results were obtained by intensive treatment. On the other hand, the U. S. Public Health Service pamphlet quoted above sides with the continuous method. The matter cannot be considered as settled. But one conclusion plainly emerges from the controversy, and that is the importance of adequate treatment. The following table by Moore[2] is eloquent enough:

Eight doses, or less, of arsphenamine without mercury	10% cured
Two courses of arsphenamine with interim mercury	37% cured
Three courses of arsphenamine with interim mercury	56% cured
Four or more courses of arsphenamine with interim mercury	78% cured

He recommends one full year of treatment after the blood and spinal fluid have become and have remained negative.

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PUBLIC HEALTH NOTES

J. ROSSLYN EARP, DR. P. H.
Director New Mexico Bureau of Public Health

KIDNAPERS

"There can be no difference between poor and wealthy, noble and humble, old and young, in feeling for the lost child." So wrote Hideyo Noguchi and the letter is quoted in Gustav Eckstein's brilliant biography. The truth of what he wrote is evidenced by the nation-wide sympathy shown recently to the parents of the Lindbergh baby. But Noguchi was writing to a friend in Japan whose loss was due, not to the depravity of human greed, but rather to the imperturbable contumacy of the hosts of death.

It is easy to understand that we should be outraged by the activities of a human kidnaper; that our combative instincts should be aroused, our vigilance redoubled. What is less easy for me, at least, to grasp is the public apathy which allows the continuous depredations of such villians as syphilis and diphtheria—wretches that have been fingerprinted and photographed, whom we could take tomorrow if we would.

Fourteen hundred and ninety-three babies

were stolen last year in New Mexico before they were a year old. Already, in the first two months of this year, sixteen children, under 12, have been taken by diphtheria alone. Nothing is more certain than that diphtheria can be stamped out. But this cannot be done by public health officials alone. It has been shown[1] that the immunization of the pre-school children is far more important than the immunization of older children, in the control of diphtheria incidence. Apparently this is because mild (unrecognized) and especially nasal diphtheria occurs most frequently among these youngsters under 5. Health officers can urge upon the public the urgent importance of the use of toxoid: it is the family doctor who sees that the toxoid is given. Without his aid we shall continue to lose children who might have been securely guarded.

THE AMERICAN PUBLIC HEALTH ASSOCIATION

One wonders how, in these days, any practitioner of medicine can get along without the American Journal of Public Health. Take the subject of diphtheria for example. Articles of the greatest practical value on immunization with toxoid have appeared in each of the first three numbers of the current volume. It is generally agreed that the future of medical practice will be more and more in the field of preventive medicine. What better way of keeping abreast of the times than to read regularly the official public health journal? The Bureau of Health will always be glad to lend one of the copies which come to various members of its staff. But why not join the Association? For five dollars a doctor may have all the privileges of membership and a subscription to the journal thrown in.

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ARIZONA STATE MEDICAL ASSOCIATION

Forty First Annual Meetting
Globe, Ariz., April 21 to 23, 1932

SCIENTIFIC SESSIONS

The meeting was called to order by the President, Dr. Harry Reese, of Yuma.

Rev. Gordon Chapman gave the following invocation:

"Almighty God, our Heavenly Father, we thank Thee that we are privileged to serve with Thee in the answering of human need. We thank Thee for those consecrated lives that co-operate with Thee in alleviating human suffering and the relief of pain and distress. We thank Thee for the fellowship this occasion offers for sharing of achievements. We earnestly pray that Thou wilt place within us a passion for the truth that will enlighten our intellects, a nobility of ideals that will kindle our sympathies, and a love for service that will enhance our effectiveness.

"We invoke Thy blessing upon the deliberations of this gathering, to bless, to illumine our minds, to renew our zeal for service. May Thy spirit be evidenced in our efforts to know and to understand. To that end, our Father, we ask for the guidance of Thy spirit of truth to direct our meditations and conversation. In the spirit of our Master we pray it. Amen."

In the absence of Mayor Keegan, Judge C. C. Faires gave the Address of Welcome, following which Dr. John Flinn gave the response of the Medical Association.

Dr. Reese introduced the President-elect, Dr. Gunter, who then addressed the Association.

The first paper of the scientific program was given by Dr. Berger of Phoenix, whose subject was "The Arizona State Board of Medical Examiners and the Medical Profession." Dr. R. J. Stroud of Tempe opened the discussion, and was followed by Drs. Wilkinson and H. P. Mills, both of Phoenix.

Dr. Harlan Shoemaker of Los Angeles read the second paper. His subject was "Statistical Report on Gall Bladder Operations at the Los Angeles County Hospital During the Past Six Years." In the absence of Dr. Thomas, Dr. Bacon of Globe opened the discussion. Dr. Yount, Dr. Brayton and Dr. Adamson contributed to the discussion, which was then closed by Dr. Shoemaker.

The Board of Councillors held their meeting at one o'clock Thursday after luncheon at the Dominion Hotel.

At two o'clock sessions were resumed. Dr. Yount presented a paper on "Rupture of the Pregnant Uterus in Trial Labor—Previous Cesarean Scar Intact, Report of a Case." In the absence of Dr. Kirmse, Dr. Swackhamer opened the discussion, and was followed by Dr. Irvin, of Miami, Dr. Wilkinson and Dr. Sharp of Phoenix. Dr. Yount then closed the discussion of his paper.

Dr. H. P. Mills of Phoenix read the second paper of the afternoon. "The Neutrophile Leukocyte" was his subject. Dr. Greer was not present and Dr. Gunter asked Dr. Robert Flinn to discuss the paper. Dr. John Flinn spoke and Dr. Mills closed the discussion.

The paper, "Light and Air Therapy," by Drs. John and Robert Flinn, was presented by Dr. Robert Flinn, and comments were made by Dr. John

(Continued on page 224)

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PROBLEMS FACING THE ARIZONA STATE MEDICAL ASSOCIATION

Never since the turbulent days of forty years ago has the Arizona State Medical Association faced more serious problems than we are confronted with today. These problems are public and political in nature and, while the above statement is true, it is also true that we were never more favorably situated for the wise and correct solution of these problems.

Arizona is being over-run by a horde of non-medical practitioners of the cultist type, and they are going to demand legislative recognition unless the medical profession bestirs itself. Furthermore, under our present medical practice act, to which the attorney general of the state has given an interpretation never intended by the act, we are being inundated by a tidal wave of medical practitioners, far beyond the needs of our population. This inundation can only be checked by a radical revision of our medical practice act. The medical profession of the state is well united on the proposal that the Basic Science Act will offset both of these evils.

There are problems associated with the Arizona Industrial Commission's work which are vital to the medical profession. These problems should be solved in a statesmanlike manner.

We have at the head of the organization for the coming year two men well qualified to serve the Association in these critical months. Dr. Clarence Gunter, of Globe, who assumed the presidency a few weeks ago, is thoroughly familiar with the necessary tactics of political and legislative contacts. He is a man of great influence in the dominant party of this state, and should lead us successfully in whatever legislative program is decided upon. The Association is fortunate in having a man of his wide experience in the presidency at this time.

Dr. Nelson C. Bledsoe, of Tucson, the president-elect, is also a well known and influential figure in the medical life of the state. For the past twenty-five years he has been located in Bisbee, as chief surgeon of the Calumet & Arizona hospital. In fraternal circles he is one of the best known citizens of the state.

We could not have two men who will be listened to with more attention by the thinking citizens of Arizona.

ARIZONA STATE MEDICAL ASSOCIATION

(Continued from page 223)

Flinn following his presentation. Dr. Wilkinson, Dr. Holbrook and Dr. Reese also discussed it before Dr. Robert Flinn closed.

Dr. Adamson's paper, "Spinal Anesthesia," was discussed by Drs. Shoemaker, Bacon, Kennedy of Globe, Stevenson of San Diego, and Yount, before the discussion was closed.

The House of Delegates met at nine o'clock, Friday mornnig, and the Scientific Sessions were continued at ten o'clock. An announcement was made by Dr. Orville Harry Brown of Phoenix that he has been compiling statistics about all doctors who have made their homes in Arizona, and that he will

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appreciate the cooperation of the members of the Association in the continuation of this work.

Dr. N. C. Bledsoe of Tucson gave the first paper of the day, on "Treatment of Burns." Dr. Adamson, Dr. Wilson of Willcox, Dr. C. E. Irvin, of Miami, and George Goodrich, of Phoenix presented their contributions and Dr. Bledsoe closed the discussion.

"Immunization Against Diphtheria—Toxoid Compared with Toxin-antitoxin" was the subject presented by Dr. M. S. Gaede of Jerome. Dr. Barley discussed it, and Dr. Gaede closed without further comment.

Dr. E. A. Gatterdam of Phoenix read a paper on "House Dust as an Etiological Factor in Asthma." Dr. S. H. Watson of Tucson opened the discussion and Dr. O. H. Brown also participated, after which Dr. Gatterdam closed the discussion.

On Friday afternoon, April 22, Dr. George Roy Stevenson, of San Diego, read the first paper on "Cancer." Dr. Dudley Smith of San Francisco followed, reading a paper on "Cancer of the Rectum," and the two papers were discussed together. Dr. Goodrich, Dr. O. H. Brown, both of Phoenix, and Dr. F. D. Vickers of Deming, New Mexico, were those who took part.

Mr. Bert Clingan of Phoenix read a paper on "Industrial Surgery and the Compensation Law." It was discussed by Dr. Patterson, Phoenix, Dr. Bledsoe and Dr. Kennedy of Globe.

Dr. David M. Davis then presented his paper on "Urethral Methods for the Relief of Prostatic Obstructions—History and Present Status." Dr. C. E. Utzinger of Ray opened the discussion which Dr. Purcell of Phoenix, Dr. W. G. Schultz, of Tucson, and Dr. Harbridge continued. Dr. Davis then closed.

On Saturday morning, April 23, the House of Delegates met at nine o'clock, preceded by a short meeting of the Council.

The Scientific Session was taken up at ten o'clock with a paper by Dr. Paul Holbrook of Tucson, "Heart Murmurs". In the absence of Dr. Fahlen, the discussion was thrown open. Dr. Howell Randolph and Dr. Reese and Dr. Baldwin of Phoenix took part in the disucssion, after which Dr. Holbrook closed.

"Treatment of Rectal Diseases by the Injection Method" was the subject of a paper by Dr. N. J. Kilbourne of Los Angeles. Dr. Kennedy of Globe opened the discussion and Dr. Holt also took part before Dr. Kilbourne closed.

Dr. Victor Randolph of Phoenix presented the subject "Intra-pleural Pneumolysis," which was discussed by Dr. Holbrook, and closed by Dr. Randolph.

The morning session was adjourned.

Dr. Howell Randolph of Phoenix gave the first paper of the afternoon session. Dr. Victor Randolph discussed it in the absence of Dr. W. C. Davis, and Dr. Randolph closed.

Dr. Gaskins presented the subject, "Advances in the Diagnosis and Treatment of Sinusitis." Dr. Irvin and Dr. Bacon discussed it, and Dr. Gaskins closed the discussion.

The 1932 session of the State Medical Association was adjourned, and a meeting of the House of Delegates terminated the executive meetings.

COUNCIL MEETINGS

The annual meeting of the Council of the Arizona State Medical Association was held at 1 p. m., April 21, 1932. The meeting was called to order by the President, Dr. Clarence Gunter. The

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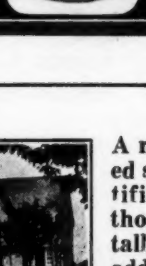

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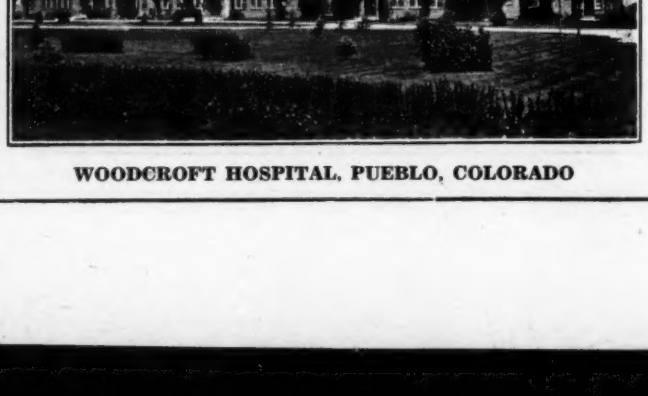

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Superintendent

following members were present: Drs. Manning, Gunter, Yount, Harbridge, Reese and Bacon.

Minutes of the 1931 meeting were read and approved.

The report of the Treasurer was read by Dr. C. E. Yount. Dr. Reese moved that Paragraph 7 of the recommendations of the Committee on Auditing be amended to read "fifty dollars" instead of "twenty-five dollars." Dr. Harbridge seconded the motion and it was carried. Dr. Reese then moved that the report of the Auditing Committee with the amendment be accepted as it sands. Dr. Manning seconded the motion and it was carried.

On Saturday, April 23, the Council held a short session. Those present were Drs. Harbridge, Gunter, Reese and Manning.

The following resolution was presented:

"Whereas it appears that an impression exists in the minds of many members of this Association that certain members have been instrumental in encouraging certain attorneys to file suit for malpractice against our members whether purposely or unconsciously, thereby causing the Association increased expenses and trouble; now therefore, be it resolved, that the Medical Defense Committee shall have authority to require attendance at its meetings of all concerned in future suits for the purpose of determining the ethical attitude toward the case in question."

It was moved by Dr. Manning that the resolution be adopted. Dr. Reese seconded the motion and it was carried.

THE HOUSE OF DELEGATES

The annual meeting of the House of Delegates of the Arizona State Medical Association convened on April 22, 1932, with the President, Dr. Gunter, presiding.

Roll Call showed the following members present: Drs. Adamson and Wilson, Cochise County; Dr. Manning, Coconino County; Drs. Swackhamer and Bacon, Gila County; Dr. Squibb, Graham County; Drs. Harbridge, McLoone, O. H. Brown, Goodrich, Greer, Carson, Truman and Purcell, Maricopa County; Dr. Brazee, Mojave County; Drs. John Flinn and Gaede, Yavapai County; and Dr. Reese, Yuma County.

The Secretary read the minutes of the 1931 meeting which were approved as read.

A resume of the Treasurer's Report was given by Dr. John Flinn in the absence of Dr. Yount. Dr. Bacon was called upon to discuss the recommendation of the Auditing Committee regarding the limitation of the amount of money that the Medical Defense Committee shall expend on any one case. He stated that a precedent is being set and that it is important that the State Association control it. Law suits between members in good standing hazard the whole matter of Medical Defense. Dr. Bacon then moved that the amount that may be expended on any one given case be set at $2,000,

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but that on unanimous vote of the Committee the amount may be exceeded at the discretion of the Medical Defense Committee. In the discussion which followed, Dr. Harbridge stated that California Doctors had required that 30 hours of "materia medica" be studied by osteopaths in the hope that their work would be disqualifed. Instead, the osteopaths took the required work with the result that they are placed on a status equal with the doctors.

The Treasurer's report was adopted.

Dr. Bacon, as Chairman of the Committee for **Medical Defense** read a leter from the McKesson, Sloane and Scott Law Firm, which is incorporated elsewhere in this report. He stated that Mr. Holton who served the Medical Association efficiently for many years has removed to California.

Dr. Gunter appointed Drs. Finn, Greer, and Bacon to serve on the Necrology Committee.

Dr. Gunter suggested that it would be a good idea for the Association to get in touch with the Fort Wayne Insurance Company regarding the Schupp case. He said that Dr. Purcell is the principal witness for the defense.

The meeting was adjourned.

The House of Delegates was called to order by the President for a continuation of their session on Saturday, April 23, at nine o'clock, with the following representatives present: Dr. Wilson, Cochise County; Dr. Manning, Coconino County; Dr. Squibb, Graham County; Drs. Thoeny, Craig, Patterson, Harbridge and Howell Randolph, Maricopa Caunty; Dr. Brazee, Mojave County; Drs. Harper, Whiteman, Swackhamer, Bacon and Gunter, Gila County; Dr. Holbrook, Pima County, and Dr. Reese, Yuma County.

The Secretary's Report was read. It was moved by Dr. Bacon and seconded by Dr. Randolph that it be accepted. The motion was carried. Dr. Harbridge then spoke of the problems facing medical men in the fact that the Shoulder Plan of Hospital Construction provides for the expenditure of $550,000,000 in the establishing of clinics. He said, "It looks very unfavorable for the doctors. In Washington a right thinking man has a great deal of trouble to carry on his profession. The level of medical practice has been lowered. Instead of benefiting the public it is a matter of shunting patients around from one Doctor to another."

Dr. Thoeny presented a resume of the **Basic Science Law,** stating that the difference between the new draft of it and the one presented last year is that no cult is mentioned by name. In the discussion which followed Drs. Randolph and Gunter participated. Dr. Gunter said that he would appoint a committee to work in conjunction with the Public Welfare Committee and will ask some men or will himself go over the state and make contacts.

The election of officers resulted in the choice of the following for the ensuing year:

President-Elect, Dr. N. C. Bledsoe, of Tucson.

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Vice-President, Dr. C. W. Swackhamer, Superior, Arizona.

Treasurer, Dr. C. E. Yount, Prescott.

Secretary, Dr. D. F. Harbridge, Phoenix.

Councillor of Central District, Dr. Victor Randolph, Phoenix.

Chairman of Medical Defense Committee, Dr. John E. Bacon, Miami.

National Legislation Representative, Dr. R. J. Stroud, Tempe.

Delegate to the American Medical Association, Dr. Paul Holbrook, Tucson. Alternate, Dr. Wilson, Willcox.

Welfare Committee, Drs. W. Warner Watkins, and George Truman to serve with Dr. John E. Bacon, Chairman.

Associate Editor for Southwestern Medicine, Dr. O. H. Brown of Phoenix.

Dr. Holbrook, on behalf of the members of the Pima County Medical Society, extended an invitation to the Association to meet in Tucson in 1933.

Dr. Reese, on behalf of the Yuma County Medical Society and the mayor of Yuma, extended an invitation to the Association to meet in Yuma.

A vote was taken, which favored Tucson, and it was moved by Dr. Reese and seconded by Dr. Swackhamer that it be made unanimous in favor of meeting in Tucson. The motion was carried.

Dr. Manning moved and Dr. Holbrook seconded the motion that the Association go on record as expressing their deep appreciation of the courtesies shown by the Gila County Medical Society in providing for the entertainment of the members of the State Society during the days of the Convention. The motion was carried.

The names of Drs. Ellis and Barlow were submitted in the Necrology Committee Report.

The meeting was adjourned.

SECRETARY'S ANNUAL REPORT

The usual routine business of the office has been carried on. A large amount of correspondence passes through the office. Membership records, correspondence with the American Medical Association relative to many matters of interest to organized medicine.

In November, 1931, the Secretary attended the State Secretaries meeting, Chicago, at the A. M. A. building. The proceedings are being published at the present time in the Bulletin. These contributions should command careful consideration by each physician interested in the future welfare of organized medicine. Three outstanding presentations, concerned the question of medical and hospital service for veterans. So called medical clinics or groups especially those fostered directly or indirectly by lay persons. The danger of undermining influence of too many medical organizations. The dominant community medical influence should be in the hands of the local county society, as it is the unit on which the A. M. A. is builded. The parent association is

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Because it provides a lot of substantial nourishment at little cost, because it is quickly assimilated, and *because it is delicious*—Cocomalt is recommended as a diet supplement to increase strength and restore vitality. It comes in ½-lb. and 1-lb. sizes, at grocers and leading drug stores. Available also in special 5-lb. can for hospital use.

Free to Physicians

Coupon brings you a trial-size can of Cocomalt, without cost.

Cocomalt

DELICIOUS HOT OR COLD

ADDS 70% MORE NOURISHMENT TO MILK

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Please send me, without charge, a trial can of Cocomalt.

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PYRIDIUM

COUNCIL ACCEPTED

Phenylazo-Alpha-Alpha-Diamino Pyridine Mono-Hydrochloride (Mfd. by The Pyridium Corp.)

FOR URINARY INFECTIONS...

An effective germicide used extensively in the treatment of genito-urinary infections. The oral administration of Pyridium in tablet form affords a quick and convenient method of obtaining bactericidal action when treating Gonorrhea, Prostatitis, Pyelitis of Pregnancy, Pyelitis in infants and children, Cystitis and other chronic or acute urinary infections. In therapeutic doses Pyridium is non-toxic and non-irritating. It rapidly penetrates denuded surfaces and mucous membranes and is quickly eliminated through the urinary tract. The Council on Pharmacy and Chemistry of the American Medical Association has accepted Pyridium for inclusion in New and Non-Official Remedies. You can therefore prescribe this drug with full confidence that its therapeutic action will conform to the claims made for it. Avoid substitutes. Your prescription pharmacist can supply Pyridium in four convenient forms: as tablets, powder, solution or ointment.

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B18/1

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Accept this TRIAL OFFER

Here is a hypodermic needle that does not clog or corrode; one that is impervious to acids and reagents; a needle that does not have to be wired or even dried after cleansing. . . . . one that remains sharp indefinitely.

The name is VIM—the needle with the Square Hub.

If you are about to buy needles we invite you to try VIM. Accept this offer. Just check and mail the coupon to us.

Southwestern Surgical Supply Company

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No. 121 North First Street
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Gentlemen: Send me a trial dozen of VIM Hypodermic Needles as checked below. If these needles do not prove all you claim them to be they may be returned and the charge cancelled.

.....27 G. ½" .....@ $2.50 doz.	.....26 G. ½" .....@ $2.50 doz.	.....25 G. ⅝" .....@ $2.50 doz.
.....24 G. ¾" .....@ $2.50. doz.	.....23 G. 1" .....@ $2.50 doz.	.....23 G. ⅝" .....@ $2.50 doz.
.....22 G. 1⅛" .....@ $3.00 doz.	.....20 G. 1½" .....@ $3.00 doz.	

Name..... Address.....

just as strong and effective as the primary unit makes it. Health insurance was an important subject.

Membership in good standing 267, (honorary) 2
Dues received $3,562.50
Expenses for which vouchers were signed
General Expenses.....$1,207.35
Medical defense 815.90

D. F. HARBRIDGE,
Secy. Ariz. State Med. Assoc.

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE

The committee on Medical Defense has taken official cognizance of seven separate cases during the past year.

One case Pavell vs. Sweek went to trial resulting in a "hung jury". Total cost $758.60.

Carlson vs. Hicks case non-suited. The Swackhamer case was non-suited—Ft. Wayne Co. case. The Shupe case (Ft. Wayne) verdict of $5,000 for the plaintiff. Tuthill case (Ft. Wayne) is to be set for trial. Tuckett vs. Bonnell and Purcell are only threatened cases and have not actually been entered.

The old application blanks being inadequate and of such inferior material for purposes of future references new blanks have been prepared.

The financial status of the Defense Fund is as follows:

Balance in Savings Bank, April 22, 1931	$4080.00	
Interest and dividends	581.86	
Dues from 285 members pro rata	1710.00	
		$ 6,372.54
EXPENSES		
Medical Defense Legal	722.40	
Taylor Printing Co.	27.50	
Tucker Morgan Co.	66.00	
Rent Safety Deposit Box	3.00	815.90
Balance available		$ 5,556.64
Bonds		10,000.00
Amt. Available		$15,556.64

J. E. BACON, Chairman.
R. D. KENNEDY.
D. F. HARBRIDGE.

SITUATIONS WANTED

WANTED—Salaried appointments for Class A Physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connection enables us to give Superior service. Aznoes National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.

FOR SALE:—Eye, Ear, Nose and Throat instruments and cabinet, property of the late Dr. David H. Lewis. For more complete description and prices write Mrs. D. H. Lewis, 115 So. Walter St., Albuquerque, N. M.

Mercurochrome
220 Soluble
in
OBSTETRICS

A statistical study of a series of over 9000 cases showed a morbidity reduction of over 50% when Mercurochrome was used for routine preparation.

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SPARKLING GELATINE
IN **DIETS** FOR **DIABETES**
LIQUID *and* **SOFT FEEDING**
REDUCING and ANEMIA

KNOX is pure, granulated plain gelatine with 85-86% protein content. Free from flavoring, coloring or sweetening—therefore combines safely and perfectly with fruits, vegetables and other foods for all diets.

KNOX *is the real Gelatine*

Data and Recipe Books on Request

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AT the other end of your telephone wire is a man who has spent years preparing to respond to your call for help—your doctor

To qualify himself to answer your summons, he first acquired a sound preliminary education Then he spent four years in medical school. He passed rigid state examinations. He served an internship in a hospital And he has dedicated his life to the practice of one of the most arduous and painstaking professions in the world.

Whether you call your physician suddenly, or make an appointment a week ahead of time; whether you go to his office or he comes to your home; whether your need is slight and simple, or dire and complicated—he brings to your aid the whole of man's protective knowledge against pain and sickness, tempered and fitted to your individual needs by his personal skill and friendly understanding.

Your doctor does not pretend to superhuman powers. He is a highly trained expert, working within the limits of modern scientific knowledge, which he interprets for your own individual benefit. With that knowledge, he can prevent some diseases which until a generation ago were believed unavoidable; he can cure or control others which not so long ago were almost invariably fatal.

If we could give you only one message about your health, it would be this: With such help available, don't rely upon the advice of well-meaning friends without medical training—go to your *physician.*

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